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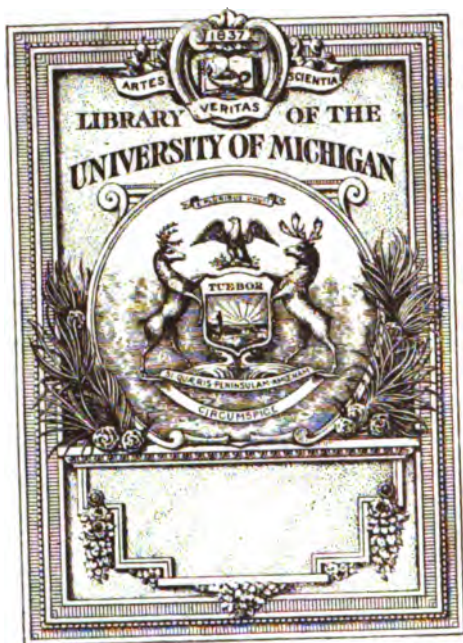
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THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

FOURTH ANNUAL CONVENTION

ADDRESSES, REPORTS, BIBLIOGRAPHIES
AND DISCUSSIONS

PITTSBURGH, PENNSYLVANIA

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FUNCTIONS

THE FUNCTIONS OF THE ASSOCIATION ARE THREEFOLD

- 1 TO DEVELOP THE EFFICIENCY OF THE INDIVIDUAL EMPLOYEE**
- 2 TO INCREASE EFFICIENCY IN INDUSTRY**
- 3 TO INFLUENCE COURSES OF ESTABLISHED EDUCATIONAL INSTITUTIONS MORE FAVORABLY TOWARD INDUSTRY**

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N. C. KINGSBURY, Vice-President, American Telephone & Telegraph Company, 15 Dey Street, New York City.

C. H. LUDINGTON, Secretary and Treasurer, The Curtis Publishing Company, Independence Square, Philadelphia, Pa.

JOHN McLEOD, Assistant to the President, Carnegie Steel Company, Pittsburgh, Pa.

M. W. MIX, President, Dodge Manufacturing Company, Mishawaka, Indiana.

DR. HUGO MUNSTERBERG, Harvard University, Cambridge, Massachusetts.

JOHN H. PATTERSON, President, The National Cash Register Company, Dayton, Ohio.

JAMES A. ROOSEVELT, Roosevelt & Thompson, 71 Broadway, New York.

DR. CHARLES P. STEINMETZ, General Electric Company, Schenectady, New York.

HERBERT J. TILY, General Manager, Strawbridge & Clothier, Philadelphia, Pa.

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COMMITTEE ON ADVERTISING, SELLING AND DISTRIBUTION SCHOOLS

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DR. W. L. ETTINGER

R. L. COOLEY

DR. D. L. IRETON

COMMITTEE ON CODIFICATION

HARRY TIPPER, *Chairman*

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K. W. WATERSON

COMMITTEE ON VOCATIONAL GUIDANCE

DR. H. C. METCALF, *Chairman*

C. R. STURDEVANT

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COMMITTEE ON NOMINATIONS

J. L. CONOVER, *Chairman*

N. F. DOUGHERTY

A. W. SODERBERG

H. W. DUNBAR

L. W. GEORGE

COMMITTEE ON RESOLUTIONS

MISS H. R. FOX, *Chairman*

N. F. DOUGHERTY

W. D. KELLEY

COMMITTEE ON MEMBERSHIP

JOHN McLEOD, *Chairman*
F. C. HENDERSCHOTT, *Secretary*

NOTE: There will be no regular membership committee appointed other than Chairman and Secretary, but all members of the Association will be asked to coöperate in securing new memberships.

MEMBERSHIP

OF

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

CLASS A MEMBERS

ADDRESSOGRAPH COMPANY.....	W. K. PAGE
901 West Van Buren Street, Chicago, Illinois	
AMERICAN BRIDGE COMPANY.....	J. E. BANKS
Pittsburgh, Pennsylvania	
AMERICAN LOCOMOTIVE COMPANY.....	L. L. PARK
Schenectady, New York	
AMERICAN OPTICAL COMPANY.....	S. W. CADY.
Southbridge, Massachusetts	
AMERICAN STEEL & WIRE COMPANY.....	C. R. STURDEVANT
Worcester, Massachusetts	
AMERICAN TELEPHONE & TELEGRAPH COMPANY.....	K. W. WATERSON
15 Dey Street, New York City	
AMERICAN TOBACCO COMPANY.....	W. JUDSON
111 Fifth Avenue, New York City	
ARIZONA COPPER COMPANY, LTD.....	N. CARMICHAEL
Clifton, Arizona	
THE ATCHISON, TOPEKA & SANTA FE RAILWAY.....	F. W. THOMAS
Topeka, Kansas	
THE ATLANTIC REFINING COMPANY.....	J. D. GILL
Philadelphia, Pennsylvania	
BING & BING CONSTRUCTION COMPANY, INCORPORATED....	A. BLUMENTHAL
119 West 40th Street, New York City	
BRIGHTON MILLS.....	H. V. R. SCHEEL
Passaic, New Jersey	
THE BROOKLYN UNION GAS COMPANY.....	T. M. AMBLER
180 Remsen Street, Brooklyn, New York	
BURROUGHS ADDING MACHINE COMPANY.....	F. H. DODGE
Detroit, Michigan	
CADILLAC MOTOR CAR COMPANY.....	H. M. LELAND
Detroit, Michigan	
CARNEGIE STEEL COMPANY.....	JOHN McLEOD
Pittsburgh, Pennsylvania	

CHALMERS MOTOR COMPANY.....	W. P. BRADLEY
Detroit, Michigan	
CHICAGO TELEPHONE COMPANY.....	C. C. CURTIS
Chicago, Illinois	
THE CLEVELAND-CLIFFS IRON COMPANY.....	W. H. MOULTON
Ishpeming, Michigan	
COMMONWEALTH EDISON COMPANY.....	F. R. JENKINS
Chicago, Illinois	
COMMONWEALTH STEEL COMPANY.....	A. T. MOREY
St. Louis, Missouri	
CONSOLIDATED GAS COMPANY OF NEW YORK.....	W. D. KELLEY
4 Irving Place, New York City	
CONSOLIDATED GAS, ELECTRIC LIGHT & POWER COMPANY.....	D. BURNETT
Baltimore, Maryland	
THE CURTIS PUBLISHING COMPANY.....	R. C. CLOTHIER
Independence Square, Philadelphia, Pennsylvania	
DENNISON MANUFACTURING COMPANY.....	C. E. SHAW
Framingham, Massachusetts	
DISSTON, HENRY SONS, INCORPORATED.....	S. H. DISSTON
Philadelphia, Pennsylvania	
DIVES, POMEROY & STEWART.....	R. W. KINSEY
Reading, Pennsylvania	
DODGE MANUFACTURING COMPANY.....	M. W. MIX
Mishawaka, Indiana	
DONNELLEY, R. R. & SONS COMPANY.....	T. E. DONNELLEY
Chicago, Illinois	
EASTMAN KODAK COMPANY.....	F. W. LOVEJOY
Rochester, New York	
THE EQUITABLE LIFE ASSURANCE SOCIETY.....	F. P. PITZER
120 Broadway, New York City	
FELS & COMPANY.....	M. FELS
Philadelphia, Pennsylvania	
FORD MOTOR COMPANY.....	N. A. HAWKINS
Detroit, Michigan	
FORE RIVER SHIPBUILDING CORPORATION.....	J. M. LARKIN
Quincy, Massachusetts	
GENERAL ELECTRIC COMPANY.....	DR. C. P. STEINMETZ
Schenectady, New York	
THE B. F. GOODRICH COMPANY.....	R. M. NEUSTADT
Akron, Ohio	
THE GOODYEAR TIRE & RUBBER COMPANY.....	D. R. STEVENS
Akron, Ohio	
THE GRATON & KNIGHT MANUFACTURING COMPANY....	W. V. SPAULDING
Worcester, Massachusetts	
HAINES, JONES & CADBURY COMPANY.....	J. H. BORTON
Philadelphia, Pennsylvania	
HEINZ, H. J. COMPANY.....	H. HEINZ
Pittsburgh, Pennsylvania	

ILLINOIS STEEL COMPANY.....	T. W. ROBINSON
Chicago, Illinois	
INGERSOLL, ROBERT H. & BROTHER.....	J. WILLIAM SCHULZE
315 Fourth Avenue, New York City	
INTERNATIONAL HARVESTER COMPANY OF NEW JERSEY.....	G. A. RANNEY
Chicago, Illinois	
THE JEFFREY MANUFACTURING COMPANY.....	W. A. GRIEVES
Columbus, Ohio	
KELLOGG, A. H. COMPANY.....	J. S. HEDGES
141 East 25th Street, New York City	
KOPS BROTHERS.....	W. KOPS
16th Street and Irving Place, New York City	
LARKIN COMPANY.....	W. R. HEATH
Buffalo, New York	
MADDOCK'S, THOMAS SONS COMPANY.....	J. T. SPICER
Trenton, New Jersey	
METROPOLITAN LIFE INSURANCE COMPANY.....	DR. L. I. DUBLIN
1 Madison Avenue, New York City	
THE MIDVALE STEEL COMPANY.....	R. B. LINDSAY
Philadelphia, Pennsylvania	
MONTGOMERY WARD & COMPANY.....	W. R. DEFIELD
Chicago, Illinois	
THE MOUNTAIN STATES TELEPHONE & TELEGRAPH COMPANY.....	R. B. BONNEY
Denver, Colorado	
THE NATIONAL CASH REGISTER COMPANY.....	H. G. CARNELL
Dayton, Ohio	
NATIONAL CLOAK & SUIT COMPANY.....	GEORGE B. EVERITT
203 West 24th Street, New York City	
NATIONAL LEAD COMPANY.....	DR. D. L. IRETON
111 Broadway, New York City	
NATIONAL TUBE COMPANY.....	T. ALLDERDICE
Pittsburgh, Pennsylvania	
NEW ENGLAND TELEPHONE & TELEGRAPH COMPANY.....	E. M. HOPKINS
Boston, Massachusetts	
NEWPORT NEWS SHIPBUILDING & DRY DOCK COMPANY.....	E. O. SMITH
Newport News, Virginia	
THE NEW YORK EDISON COMPANY.....	ARTHUR WILLIAMS
Irving Place at 15th Street, New York City	
NORTON & NORTON GRINDING COMPANIES.....	E. H. FISH
Worcester, Massachusetts	
OREGON SHORT LINE RAILROAD.....	L. E. ABBOTT
Salt Lake City, Utah	
OTIS ELEVATOR COMPANY.....	R. S. BALDWIN
11th Avenue and 26th Street, New York City	
PACKARD MOTOR CAR COMPANY.....	A. E. CORBIN
Detroit, Michigan	
THE BELL TELEPHONE COMPANY OF PENNSYLVANIA.....	J. C. LYNCH
Philadelphia, Pennsylvania	

THE PENNSYLVANIA RAILROAD COMPANY.....	J. H. YODER
Altoona, Pennsylvania	
PHILADELPHIA RAPID TRANSIT COMPANY.....	M. R. KLINE
Philadelphia, Pennsylvania	
PHOENIX MUTUAL LIFE INSURANCE COMPANY.....	H. A. HOPF
Hartford, Connecticut	
PITTSBURGH RAILWAYS COMPANY.....	C. G. RICE
Pittsburgh, Pennsylvania	
THE PRUDENTIAL INSURANCE COMPANY OF AMERICA.....	F. W. TASNEY
Newark, New Jersey	
PUBLIC SERVICE CORPORATION OF NEW JERSEY.....	J. L. CONOVER, JR.
Newark, New Jersey	
REMINGTON TYPEWRITER COMPANY.....	F. E. VANBUSKIRK
327 Broadway, New York City	
THE RIKE-KUMLER COMPANY.....	MISS L. MEYNCKE
Dayton, Ohio	
THE H. M. ROWE COMPANY.....	DR. H. M. ROWE
Baltimore, Maryland	
THE SCHWARZENBACH HUBER COMPANY.....	H. VIOLA
West Hoboken, New Jersey	
THE SHERWIN-WILLIAMS COMPANY.....	M. J. JONES
Cleveland, Ohio	
SIMONDS MANUFACTURING COMPANY.....	E. B. SAUNDERS
Fitchburg, Massachusetts	
SOUTHERN BELL TELEPHONE & TELEGRAPH COMPANY.....	K. WEISIGER
Atlanta, Georgia	
SOUTHERN PACIFIC COMPANY.....	NORMAN COLLYER
San Francisco, California	
SOUTHWESTERN BELL TELEPHONE SYSTEM.....	B. S. READ
St. Louis, Missouri	
THE SPIRELLA COMPANY.....	W. W. KINCAID
Niagara Falls, New York	
STANDARD FASHION COMPANY.....	J. T. SCANLON
16 Vandam Street, New York City	
THE STANDARD MANUFACTURING COMPANY.....	C. E. BILTON
Bridgeport, Connecticut	
STANDARD OIL COMPANY OF CALIFORNIA.....	R. C. WARNER
San Francisco, California	
STANDARD OIL COMPANY OF NEW YORK.....	E. S. MOFFETT
26 Broadway, New York City	
STETSON, JOHN B. COMPANY.....	M. H. WRIGHT
Philadelphia, Pennsylvania	
STRAWBRIDGE & CLOTHIER.....	H. J. TILY
Philadelphia, Pennsylvania	
SWIFT & COMPANY.....	E. L. WARD
Chicago, Illinois	
THE TEXAS COMPANY.....	H. TIPPER
17 Battery Place, New York City	

TIDE WATER OIL COMPANY.....	B. D. BENSON
11 Broadway, New York City	
THE TROW PRESS.....	T. B. SHEEHAN
201 East 12th Street, New York City	
UNITED CIGAR STORES COMPANY.....	H. G. PETERMANN
44 West 18th Street, New York	
UNITED STATES RUBBER COMPANY.....	D. A. WILCOX
1790 Broadway, New York City	
THE WARNER BROTHERS COMPANY.....	L. T. WARNER
Bridgeport, Connecticut	
THE WARNER & SWASEY COMPANY.....	K. W. REED
Cleveland, Ohio	
WESTERN ELECTRIC COMPANY, INCORPORATED.....	J. W. DIETZ
Chicago, Illinois	
THE WESTERN UNION TELEGRAPH COMPANY.....	J. K. BRUGLER, JR.
195 Broadway, New York City	
WESTINGHOUSE AIR BRAKE COMPANY.....	C. H. SMITH
Wilmerding, Pennsylvania	
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY.	C. R. DOOLEY
East Pittsburgh, Pennsylvania	
THE WESTINGHOUSE MACHINE COMPANY.....	R. F. CAREY
East Pittsburgh, Pennsylvania	
THE WILLYS-OVERLAND COMPANY.....	L. A. MILLER
Toledo, Ohio	
WINCHESTER REPEATING ARMS COMPANY.....	A. W. EARLE
New Haven, Connecticut	
THE YALE & TOWNE MANUFACTURING COMPANY.....	A. F. BARDWELL
Stamford, Connecticut	
Total.....	102

CLASS B MEMBERS

ACKERLY, H. E.	Eastman Kodak Company
Rochester, New York	
ALDEN, G. I.	Norton & Norton Grinding Companies
Worcester, Massachusetts	
ALEXANDER, M. W.	General Electric Company
Lynn, Massachusetts	
ASHE, S. W.	General Electric Company
Pittsfield, Massachusetts	
ATKIN, F. W.	The National Cash Register Company
Dayton, Ohio	
AUEL, C. B.	Westinghouse Electric & Manufacturing Company
Wilkinsburg, Pennsylvania	
BENTLEY, J. R.	Montgomery Ward & Company
Chicago, Illinois	

BEST, W. E.	The National Cash Register Company Dayton, Ohio
BOLLES, F. N.	The New York Edison Company New York, New York
BROWNSCOMBE, F. J.	National Cloak & Suit Company New York, New York
BURNETT, L. H.	Carnegie Steel Company Pittsburgh, Pennsylvania
CAMP, J. M.	Carnegie Steel Company Pittsburgh, Pennsylvania
CHANDLER, W. L.	Dodge Manufacturing Company Mishawaka, Indiana
CLARK, A. W.	General Electric Company Schenectady, New York
CLEMENTS, F. O.	The National Cash Register Company Dayton, Ohio
COLER, C. S.	Westinghouse Electric & Manufacturing Company East Pittsburgh, Pennsylvania
CRAMER, PAUL.	The Goodyear Tire & Rubber Company Akron, Ohio
DECRAVIOTO, MRS. L. R.	The New York Edison Company New York, New York
DEVEREUX, F. L.	American Telephone & Telephone Company New York, New York
DOUGHERTY, N. F.	The Pennsylvania Railroad Company Philadelphia, Pennsylvania
DUGAN, F. F.	The Goodyear Tire & Rubber Company Akron, Ohio
DUNBAR, H. W.	Norton & Norton Grinding Companies Worcester, Massachusetts
ENNIS, J. B.	American Locomotive Company New York, New York
EYLER, W. H.	The Goodyear Tire & Rubber Company Akron, Ohio
FLEISHER, A.	Metropolitan Life Insurance Company New York, New York
FOX, MISS H. R.	Strawbridge & Clothier Philadelphia, Pennsylvania
GABRIEL, G. J.	Montgomery Ward & Company Kansas City, Missouri
GARRETT, C. W.	The Pennsylvania Railroad Company Pittsburgh, Pennsylvania
GARVEY, J. J.	Western Electric Company, Incorporated Chicago, Illinois
GLASSLEY, R. H.	Montgomery Ward & Company Brooklyn, New York
GRANDSTAFF, E. G.	The New York Edison Company New York, New York

GRAY, T. G.	Southern Pacific Company Sacramento, California
HARVEY, R. B.	Westinghouse Electric & Manufacturing Company East Pittsburgh, Pennsylvania
HEINEMANN, A. L.	The Pennsylvania Railroad Company Altoona, Pennsylvania
HENDERSCHOTT, F. C.	The New York Edison Company New York, New York
HENRY, J. P.	The National Cash Register Company Dayton, Ohio
HUEY, MISS K.	The Curtis Publishing Company Philadelphia, Pennsylvania
HUGHES, E. W.	The Pennsylvania Railroad Company Philadelphia, Pennsylvania
HUGHES, M. B.	Cadillac Motor Car Company Detroit, Michigan
HUNT, H. J.	The National Cash Register Company Dayton, Ohio
ILLMAN, P. E.	The National Cash Register Company Dayton, Ohio
KELLY, J. F.	The New York Edison Company New York, New York
KORTHAUS, E.	The Brooklyn Union Gas Company Brooklyn, New York
KREUZPOINTNER, P.	The Pennsylvania Railroad Company Altoona, Pennsylvania
LARSEN, L. A.	American Locomotive Company New York, New York
PATTERSON, J. H.	The National Cash Register Company Dayton, Ohio
PFEIF, G. H.	General Electric Company Schenectady, New York
PLATT, L. J.	Public Service Corporation of New Jersey Newark, New Jersey
POTTER, Z. L.	The National Cash Register Company Dayton, Ohio
PRINCE, J. L.	The New York Edison Company New York, New York
PUFFER, R. H.	Larkin Company Buffalo, New York
RAYMOND, J. F.	Winchester Repeating Arms Company New Haven, Connecticut
ROBBINS, C.	Westinghouse Electric & Manufacturing Company East Pittsburgh, Pennsylvania
ROBINSON, F. R.	Packard Motor Car Company Detroit, Michigan
ROBINSON, J. C.	The New York Edison Company New York, New York

ROHRER, A. L.	General Electric Company Schenectady, New York
ROUTSONG, R. C.	The National Cash Register Company Dayton, Ohio
SHAW, E. D.	Burroughs Adding Machine Company Detroit, Michigan
SHORT, O. C.	Thomas Maddock's Sons Company Trenton, New Jersey
SKIFF, W. M.	General Electric Company—N. L. W. Cleveland, Ohio
SODERBERG, A. W.	Carnegie Steel Company Munhall, Pennsylvania
SWITZER, J. M.	The National Cash Register Company Dayton, Ohio
UHL, F.	American Telephone & Telegraph Company New York, New York
VANDERHOEF, G. N.	Dodge Manufacturing Company New York, New York
VINAL, A. C.	American Telephone & Telegraph Company New York, New York
WALKER, W. D.	Packard Motor Car Company Detroit, Michigan
WEBSTER, R. E.	Western Electric Company, Incorporated New York, New York
WELLER, J. H.	Packard Motor Car Company Detroit, Michigan
WHIPPLE, T. H. B....	Westinghouse Electric & Manufacturing Company East Pittsburgh, Pennsylvania
Total.....	69

CLASS C MEMBERS

ALLEN, E. G.	Cass Technical High School Detroit, Michigan
BALL, F. H.	State Industrial Normal School Santa Barbara, California
BASFORD, G. M.	Joseph T. Ryerson & Sons 30 Church Street, New York City
BAWDEN, W. T.	United States Bureau of Education Washington, District of Columbia
BEERY, J.	Beery School of Horsemanship Pleasant Hill, Ohio
BENEDICT, HOWARD G.	Anderson, Indiana
BROADBENT, J. W.	Funk & Wagnalls Company 354 Fourth Avenue, New York City

BRODHEAD, J. A.	Y. M. C. A. Wilmerding, Pennsylvania
BUELL, D. C.	Railway Educational Bureau Omaha, Nebraska
BUSCH, MISS E. A.	Board of Education Flatbush, Brooklyn, New York
CARPENTER, D. E.	International Correspondence Schools Scranton, Pennsylvania
COOLEY, R. L.	Continuation Schools Milwaukee, Wisconsin
CROWELL, DR. J.	Chamber of Commerce 65 Liberty Street, New York
DEER, A.	Editor Service Idea Magazine Sydney, Australia
DOUGLAS, P. H.	84 Prescott Street Cambridge, Massachusetts
ELDRIDGE, E. H.	Simmons College Boston, Massachusetts
FISK, J. W.	Lord & Taylor New York, New York
FLEMING, A. P.	The British Westinghouse E. & M. Company Manchester, England
FOSTER, R. J.	International Correspondence Schools Scranton, Pennsylvania
FOX, H. F.	United States Brewers' Association 50 Union Square, New York City
GALLOWAY, DR. LEE	New York University New York, New York
GEIER, F. A.	Cincinnati Milling Machine Company Cincinnati, Ohio
GERETY, P. L.	Sidney Blumenthal Company Shelton, Connecticut
GLYNN, F. L.	Board of Industrial Education Madison, Wisconsin
GREENDLINGER, L.	Alexander Hamilton Institute 13 Astor Place, New York City
HALE, J. W. L.	Massachusetts Board of Education Boston, Massachusetts
HARN, O. C.	National Lead Company 111 Broadway, New York City
HAWKINS, N. A.	Ford Motor Company Detroit, Michigan
HEDDEN, R.	Houghton Mifflin Company 16 East 40th Street, New York City
HIRSCH, J.	Kops Brothers 120 East 16th Street, New York
ILLINOIS STATE CIVIL SERVICE COMMISSION.....	Springfield, Illinois

IRWIN, G. P.	The University of Wisconsin Madison, Wisconsin
JAMISON, C. L.	A. M. Byers Company Pittsburgh, Pennsylvania
JOHNSTON, C. R.	University of Illinois Urbana, Illinois
THE JOSEPH & FEISS COMPANY.....	Cleveland, Ohio
KENNARD, MISS B.	Department Store Education Association 49 Lafayette Street, New York City
LAKE, W. I.	The Sheldon Schools 1048 Aeolian Building, New York
LEWIS, E. ST. ELMO.....	98 McLean Avenue Highland Park, Michigan
LOUGH, W. H.	Business Training Corporation 185 Madison Avenue, New York
MCCORMACK, H. S.	The Business Bourse 261 Broadway, New York City
MACCLINTOCK, S.	LaSalle Extension University Chicago, Illinois
MANN, C. R... ..	Carnegie Foundation for the Advancement of Teaching 576 Fifth Avenue, New York City
MEESE, C.	Meese & Gottfried Company San Francisco, California
MEHREN, E. J.	McGraw Publishing Company 239 West 39th Street, New York City
METCALF, PROF. H. C.	85 Bay View Street Camden, Maine
MILLER, O. M.	Pace & Pace 30 Church Street, New York City
NASH, W. K.	Nash Brothers Minneapolis, Minnesota
PACE, H. S.	Pace & Pace 30 Church Street, New York City
PALMER, A. N.	Palmer Company 30 Irving Place, New York City
RAYMOND, F. J.	38 North Burnett Street East Orange, New Jersey
REED, J. A. MRS.	Seattle Public Schools Seattle, Oregon
ROBERTSON, C. B.	University of Pittsburgh Pittsburgh, Pennsylvania
ROOSEVELT, J. A.	Roosevelt & Thompson 71 Broadway, New York City
RUSSELL, W. B.	Franklin Union Boston, Massachusetts
SCOTT, W. D.	Northwestern University Evanston, Illinois

SHEPPARD, Miss J. L.	Walter E. Bedell, Incorporated Fifth Avenue Building, New York City
SHUEY, EDWIN L.	The Lowe Brothers Company Dayton, Ohio
SPINNEY, WILLIAM	Henry Holt & Company 34 West 33rd Street, New York City
WARNER, P. J.	Ronald Press Company 21 Vesey Street, New York City
WATTERS, J. M.	West Tennessee State Normal School Memphis, Tennessee
WHITMAN, J. C.	California State Civil Service Commission Sacramento, California
WOLF, E. C.	Dyer Film Company, Incorporated Fifth Avenue Building, New York City
WOODFIELD, C. L.	Chicago Typothetæ School of Printing Chicago, Illinois
WOOLLEY, E. M.	71 Park Avenue Passaic, New Jersey
WRIGHT, R. H.	293 Henry Street Brooklyn, New York
WRIGHT, R. V.	Railway Age Gazette Woolworth Building, New York City
Total.....	66

CONSTITUTION
OF
THE NATIONAL ASSOCIATION OF
CORPORATION SCHOOLS

Organized January 24, 1913

CONSTITUTION APPROVED AND EFFECTIVE APRIL
4, 1913

Revised and Adopted, June 2, 1916

ARTICLE I

NAME

The name of this organization is The National Association of Corporation Schools.

ARTICLE II

OBJECT

Section 1.—The object is to aid corporations in the education of their employes:

- (1) By providing a forum for the interchange of ideas.
- (2) By collecting, and making available, data as to successful and unsuccessful plans of developing the efficiency of the individual employe.

ARTICLE III

MEMBERSHIP

Section 1.—Members shall be divided into three Classes: Class A (Company Members), Class B (Members), Class C (Associate Members).

Section 2.—Class A members shall be commercial, industrial, transportation or governmental organizations, whether under corporation, firm or individual ownership, which now are or may be interested in the education of their employes. They shall be entitled, through their properly accredited representative, to attend all meetings of the Association, to vote and to hold office.

Section 3.—Class B members shall be any employe of a Class A member. They shall be entitled to hold office and to attend all general meetings of the Association.

Section 4.—Class C members shall be those not eligible for membership in Class A or Class B who are in sympathy with the objects of the Association. They shall be entitled to attend all general meetings of the Association.

ARTICLE IV

OFFICERS

Section 1.—The officers shall be a President, a First and a Second Vice-President, an Executive Committee, a Secretary, and a Treasurer.

Section 2.—The President and Vice-Presidents shall be elected from Class A or Class B members to serve one year or until their successors shall have been elected. The President shall be ineligible to re-election for two years after his term has expired. The President shall preside at all meetings of the Association and of the Executive Committee, and shall perform such other duties as may be provided for in this Constitution or by vote of the Association. In case of the absence, disability or death of the President, his office shall be filled by the Senior Vice-President.

Section 3.—The Executive Committee shall consist of a President, First and Second Vice-Presidents and nine members, at least six of whom shall be elected from Class A and the balance may be elected from Class B; also the retiring President shall automatically serve as a member on the Executive Committee for a period of one year after the expiration of his term of office as President. Three members of the nine members shall be chosen at each Annual Meeting and shall hold office for three years or until their successors are elected.

Section 4.—The Executive Committee shall be the governing body of the Association, subject to this Constitution and such special rules or regulations as may be adopted by the Association from time to time, and shall manage its affairs, pass upon all applications for membership and upon the eligibility of representatives. Five members of the Committee shall constitute a quorum.

Section 5.—The Secretary shall be appointed by the Executive Committee. He shall serve for one year or until his successor is appointed. He may be a member of any class, shall be eligible for reappointment without limit and shall perform such duties as the Executive Committee may direct.

Section 6.—The Treasurer shall be appointed in the same manner as the Secretary, shall serve for a like term, and shall perform the duties assigned to him by the Executive Committee, subject to its approval. He shall give a security bond for such sum and with such qualifications as the Executive Committee may from time to time determine. The offices of the Secretary and Treasurer may be filled by the same person.

ARTICLE V

MEETINGS

Section 1.—The Annual Meeting shall be held in such places and on such dates as the Executive Committee may determine.

ARTICLE VI

QUORUM

Twenty-five Class A members shall constitute a quorum for the transaction of business.

ARTICLE VII

DUES

Section 1.—The annual dues of Class A members shall be \$100.00.

Section 2.—The annual dues of Class B members shall be \$5.00, and annual dues of Class C members shall be \$10.00.

Section 3.—All dues shall be payable in advance and shall cover the calendar year. New Class A members joining between January 1st and April 1st, shall pay first year's dues of \$100.00; those joining between April 1st and July 1st, shall pay nine months' dues or \$75.00; those joining between July 1st and October 1st, shall pay six months' dues or \$50.00; those joining between October 1st and December 31st shall pay three months' dues or \$25.00, but for subsequent years shall pay full due of \$100.00. Any members in arrears for three months shall be dropped by the Executive Committee unless in its judgment sufficient reasons shall exist for continuing members on the roll.

ARTICLE VIII

ELECTION OF OFFICERS

Section 1.—At a meeting limited to Class A members held at the time of the Annual Meeting, there shall be elected from representatives of Class A members a Nominating Committee of five members. Said Nominating Committee shall make its report to the Association through the Secretary not later than thirty days preceding the election. Within two days notification of the nominations shall be made in a circular to all Class A members.

Section 2.—The submission of names by the Nominating Committee shall not debar any accredited representative of a Class A member from making nominations, which nominations, if seconded, shall be submitted for election at the same time and in the same manner as those of the Nominating Committee.

Section 3.—Whenever there are more nominees than vacancies, the election shall be by ballot. Otherwise the Secretary shall be instructed by viva voce vote to cast the ballot for nominees.

Section 4.—Vacancies in office may be filled by the Executive Committee until the next Annual Meeting of the Association.

ARTICLE IX

PERMANENT OFFICE

The office of the Association shall be located at a place to be determined by the Executive Committee.

ARTICLE X

PUBLICATION

The Association shall publish a monthly magazine, to be called "The National Association of Corporation Schools Bulletin," which shall be under the direction of the Secretary, subject to the approval of the Executive Committee as to the policy and scope thereof and the expenditures therefor. The annual subscription price of The National Association of Corporation Schools Bulletin shall be \$2.00, and is included in the annual dues of the members.

ARTICLE XI

PARLIAMENTARY RULES

Roberts' "Rules of Order" shall govern in all cases not definitely provided for in this Constitution or in rules or By-laws of the Association.

ARTICLE XII

AMENDMENTS

Section 1.—Amendments to this Constitution shall be offered in writing and must be signed by the accredited delegates of not less than five member companies. Amendments so signed must be in the hands of the Secretary of the Association not less than forty days in advance of the Annual Meeting. Notice of the proposed amendment or amendments shall be mailed to the members not less than thirty days before the Annual Meeting.

Section 2.—A two-thirds vote of all Class A members present at an Annual Meeting shall be necessary for the adoption of any amendment.

OPENING SESSION

PRESIDENT
JOHN McLEOD
PRESIDING

TUESDAY MORNING

OPENING SESSION

TUESDAY MORNING, MAY 30, 1916

PRESIDENT JOHN McLEOD, Presiding

Ladies and Gentlemen: We have given you such a damp reception outside I feel that we can give you a more gracious welcome inside; and to that end, I take pleasure in introducing a gentleman who has served our locality, district, county, State and Country for more than ten years, until he got tired of it—The Honorable James Francis Burke.

ADDRESS OF WELCOME OF HONORABLE JAMES FRANCIS BURKE

Mr. Chairman, Ladies and Gentlemen: My task this morning is very simple and a very pleasant one.

There are two purposes to be served in any address that one might make, one of which is to leave a pleasant impression and the other is to leave some thought in the minds of your auditors that will be worthy of consideration.

I do not know that I am capable to-day of doing either, but I assure you that I am very much delighted with the opportunity of welcoming the members of your organization to this city.

At the present time the whole world seems to be in a process of reformation. What the result of the present unsettled conditions will be no human being can foretell, but certain it is that the contrasts presented by the old and the new world are worthy of our most profound consideration.

While in Europe necessity is inventing many new forms of economy and efficiency, in America the exorbitant demands upon our men and our machinery are developing in many cases incidental extravagance. The great pressure upon us to supply quickly and adequately the eager markets of the world, renders it almost impossible to pause and exercise the studious care

that produces the highest degree of efficiency and the greatest measure of economy in production.

With machinery running continuously during the twenty-four hours of the day in many cases, and abnormal pressure on the great industrial establishments, much waste is the natural consequence of it all. On the other hand, the hardships facing the people of Europe and the necessity for making much out of little were never more apparent than during the present crisis in the world's history. Individual efficiency and industrial economy are attaining the very highest degree of perfection, and when the present great military struggle is at an end and commercial warfare takes the place of military conflict, Europe will indeed be well armed and well trained to meet their adversaries in the markets of the world.

Whether, on the other hand, we will be prepared to meet the keenest competition we have ever known is a serious question.

Certainly we shall not be prepared unless we train ourselves in the development of those economies and that individual and collective efficiency which necessarily must mark the efforts of any nation seeking to succeed and conquer in the markets of the world.

It is a source of infinite satisfaction to find the great commercial and industrial establishments identified with your organization banding themselves together in a combined effort to develop that individual efficiency which, fundamentally, is essential to industrial and commercial success.

The training of the man; the development of all the finer qualities he possesses and the bringing out of the keenest talents of which he is blessed indeed form an ambitious project worthy the best efforts of our race.

We may talk as we please about the waste of by-products and the waste that follows imperfectly developed machines, but all these combined are not for a moment to be compared with the waste and the loss that is suffered from year to year as a consequence of the lack of development of that efficiency of which most individuals are capable and which few, indeed, display. One inefficient individual in an establishment is often like a broken cog in a wheel of a mighty machine which

deters the progress of all and throws the entire system out of gear.

The opportunity for the development and promotion of individuals is greater to-day than it ever was.

The high-priced man is always in demand when he possesses the keen intellect, a skillful hand and the industrious habit that makes him a real leader in his line.

Your organization will do much, indeed, to develop such as these, and in the end it will produce many great captains of industry, with the consequence that the individual will be promoted and the welfare of the establishments that originally inspired their training will be benefited.

It is a great pleasure to be with you this morning, and I bid you all a hearty welcome to our city.

RESPONSE AND ANNUAL ADDRESS

PRESIDENT JOHN MCLEOD

Ladies and Gentlemen: Speaking for myself and, I believe, for The National Association of Corporation Schools, I will say that we have learned one lesson from the remarks made by Congressman Burke, and that is how the subject in which we are interested, and which we are here to discuss, although, speaking relatively, they form a very minor part of those things which we have to do, yet they go far to make up the sum total of life; Mr. Burke has pointed out the necessity for efficiency, and particularly the necessity for efficiency in men.

I desire also to take the opportunity of thanking him for his address, and at the same time I would like to thank all of those who have been so kind in doing so much for us to make this convention a success and comfortable to the delegates and their guests.

In opening the Fourth Annual Convention of The National Association of Corporation Schools, I feel it a part of my duty to point out briefly some of the things that have impressed me as being important.

Dr. Steinmetz, in his address at our last annual convention, gave us a very accurate outline of the causes that led from the individualistic methods of something more than half a

century ago; the methods that had more of the human touch, when the owner was employer, teacher, and in very close relationship with the employe, to the corporate method of the present, where stockholders are owners and naturally the real employers.

Necessity seems to have been the reason for the change—the necessity created by our country's wonderful and rapid development.

It is not difficult to understand that the corporate method requires a different kind of organization—one which permits the work to be divided and subdivided, and it is easy to understand that such a method would lead to specialization, and at the same time, by changing the relationship between owner and employe, would remove much of the human relation so necessary to real co-operation.

This condition was not created because of motive, but because of omissions in the details of method.

It is not necessary for me to say that omissions and even mistakes were natural, when we consider the rapid development of the last sixty years in the industrial activities of our country. It should, however, be a source of pride to us that the men who have had the doing of these affairs—recognized the omissions and mistakes, and have been using their best intelligence to supply the omissions and repair the mistakes. Methods, of course, vary, but principles do not, and it should always be the principle in human affairs, be they large or small, that the individual should have his full consideration. That principle being established, the question becomes one of method which would naturally vary with different enterprises.

The method adopted by many corporations that they might obtain the co-operation of all the individual employes has been through the medium of committees. That is, the heads of all the sub-departments meet frequently with the heads of the general departments and discuss those subjects that have to do with the general welfare of the corporate enterprise and its employes.

The business instinct of the men of these committees naturally caused them to discuss the weak points of the organization and the general and particular necessity for improvement in methods where improvement was clearly necessary.

The material side of corporate interests has been very well taken care of, but when organization is under discussion it is found that the human side has to be considered in order to reach the individual and get his enthusiastic co-operation—without which organization is not complete.

Discussions of this kind and under these conditions disclosed some omissions and some mistakes, and in applying the remedy welfare work was started which is covered by the activities called safety, sanitation, works hospitals, playgrounds, pensions, etc.

Going back to the statement that corporate methods led to specialization. Investigation, of course, developed that men were not acquiring the necessary general knowledge and experience required to produce skilled workmen outside of their special groove. Many corporations, therefore, are putting forth their best efforts to correct these apparent mistakes by lending assistance to the young men and women to enable them to broaden their experience and become more skilled.

Assistance is also given to the young men and women to adjust the learning they have acquired at the schools to its application in the work of the shop or office; and where it is found that the proper kind or amount of education is lacking, schools are provided to supply the deficiency, and these schools have been given the name of corporation schools.

This movement was started some years ago by a few corporations and it has grown until to-day this National Association of Corporation Schools has one hundred of the largest and most important corporations enrolled on its list of members.

The object of our association is to provide a means for improving the method of its members through the medium of the opportunity for interchange of ideas and experiences.

The work of our committees as submitted at our last convention was largely the collecting and arranging of data for the future development of the work of our association.

The work of the committees to be submitted at this convention you will find more constructive in its nature, and should invite your interest and discussion.

An association like this and others of a kindred nature are leaving the impress of their work and are showing the close relation existing between the school and the shop, and how

great the necessity is for real co-operation, and if we compare to-day with the yesterdays I believe we can see that this co-operation is taking distinct form, and I also believe it is distinctly the province of this association, when we consider the personnel of its membership, to furnish the means for making the form more clear.

This is our Fourth Annual Convention, which suggests we have met as an association but four times in as many years; and while one year is not too long for the performance of the work assigned our committees to report to these conventions, yet is it not possible to do other work that might be of value to our association and what it represents.

Our committees have been assigned work that will take, at least in some cases, considerable time to complete. Is there not other work that is not assigned to our present committees that is vital and possibly could be better accomplished in some other way?

There are several communities in our country that are fairly represented by our members who are the residents of those communities. The city of Pittsburgh could well be considered as one of these communities, and I believe the interest of Pittsburgh in this work would parallel the interests of, say, Philadelphia, New York or Chicago. Why, therefore, should not such natural centers form chapters that would be a part of and report to the central office of this association?

The members of these chapters should be the members of our association—Classes A, B and C—which would naturally bring the shop and the school together for the benefit of each. The corporation schools would thus give an opportunity to their teachers to exchange views and discuss methods, but would also furnish the schools with an opportunity to come into closer relations with the shop. Any definite results obtained could be given to our association headquarters to be used for the benefit of all.

In closing, I leave with you the foregoing suggestions, and believe I can promise you that Pittsburgh will start such an organization next autumn. (Applause.)

The next number on the program is the Annual Report of the Executive Secretary.

REPORT OF THE EXECUTIVE SECRETARY

Mr. President, Delegates and Guests: At the time of our third annual convention, one year ago, the industries of our country were suffering because of conditions due to the war in Europe. Our Association had shown but little increase in membership since our second annual convention, and our activities had been somewhat curtailed and interfered with because of the depressed business conditions of that period. During the past year, however, our Class "A" membership has increased from 66 to 102; Class "B" membership has shown a decrease from 72 to 65, and Class "C" membership an increase from 56 to 67. The total membership at this time is 234 as compared with 194 at the time of our third annual convention. During the past year six Class "A" members have withdrawn and 48 new Class "A" members have been received, showing a gain of 54½%.

The activities of our Association have been conducted this year along much the same lines as last year. Your Executive Committee invited the chairmen of the various sub-committees to meet in joint session. A discussion was had relative to the work to be done by the sub-committees and the substance and form of their reports. These reports were made to the Executive Committee at a meeting early in April, and were printed and mailed to all our members in advance of this convention thus enabling our members to come prepared to discuss the reports.

Again there was criticism on the part of members that sufficient opportunity was not given at our third annual convention for discussion. This criticism has been made to each of the conventions which our Association has held, and to further meet the desires of our membership the Executive Committee this year omitted all addresses from the program, giving over the entire time, other than the banquet, to extracting of reports by the chairmen of the sub-committees and discussion.

PUBLICATION OF PROCEEDINGS OF THIRD ANNUAL CONVENTION

Your Executive Committee, acting under the authority conferred upon it by our members assembled, caused to be printed 1,000 copies of the Proceedings of our third annual convention, and bound volumes of these Proceedings were sent to all of our members. Thirty-four of the universities of the United States have purchased these Proceedings, and forty of the public libraries. There are still on hand bound volumes of the first annual convention (which include the proceedings of the organizing convention), bound volumes of the second annual convention, and also bound volumes of the third annual convention. Copies of these Proceedings are furnished to new members.

MONTHLY BULLETIN

Acting under the authority of the Executive Committee, your Executive Secretary has continued to edit and publish the monthly Bulletin. Twenty copies are sent to addresses furnished by Class "A" members without expense, and one copy is sent free to each Class "B" and Class "C" member. The Bulletin has been mailed each month to the principal daily newspapers in the leading cities of the United States, to the leading libraries and universities, to a list of prospective Class "A" members (industrial institutions), state superintendents of education, chairmen of educational committees, the state federations of women's clubs, commissions, and others who have requested the Bulletin and who are interested in the problems of broader education.

The supply of the Bulletin being limited to 3,000 copies and the growing list on account of Class "A" membership, has made it impossible to reach as many prospective members as seems desirable.

Fifty paid subscriptions have also been received for the Bulletin.

PUBLICITY

The work of our Association has now become sufficiently known that it has not been necessary to force publicity during

the past year. Many articles have been published relating to our Association and its work and the Executive Secretary's office has furnished material, in addition to that furnished for published articles, for many addresses. All requests for information, within reason, have been complied with.

CONTRIBUTIONS

The funds available with which to carry on the activities of our Association were not adequate for the work undertaken. The Policy and Finance Committee appointed a sub-committee which issued an appeal for contributions and the amount received (as given in the Treasurer's report) was sufficient to enable your Executive Committee to continue all of its planned activities but left a deficit at the close of the year.

INCORPORATION

Messrs. Beardsley, Hemmens & Taylor, counsel for our Association, after a thorough investigation of the laws covering the subject, advised our Association to abandon its attempt to incorporate under the laws of the State of New York as incorporation in that State, places control of our Association, so far as New York State is concerned, under the jurisdiction of the Board of Regents. The Departments of Education of other states would have been in position to assume control over the corporation schools located within the boundaries of their various states. The attempt to incorporate our Association was therefore abandoned.

EXTENSION OF EDUCATIONAL WORK

The report of the Codification Committee, when published, will show marked advancement in educational courses given by our Class "A" members on behalf of their employes. A careful estimate at this time places the total capitalization of our Class "A" members at close to three billion dollars. There are about three hundred thousand employes directly reached through the corporation schools embraced in our Association.

ACTIVITIES OF SUB-COMMITTEES

The research work of our Association has been carried on, as it was last year, through the sub-committees and the excellent manner in which this work has been done is best shown by the reports which will be submitted to this convention. Three new committees were added during the past year, the Committee on Unskilled Labor, Committee on Codification and the Committee on Retail Salesmanship. The scope of the Committee on Allied Institutions was also enlarged and representatives of other educational organizations, national in scope, were added.

COMPILATION OF STATE EDUCATIONAL LAWS

Your Executive Secretary was instructed to undertake a compilation of educational laws of the various states with special reference to recent laws covering the subject of industrial education. It was found, however, that the Government Bureau of Education was making such a compilation. The efforts of our Association, along this line, were therefore abandoned. The compilation made by the Government Bureau of Education has been issued as a Bulletin and is available upon request.

RECOMMENDATION

The work of our Association, as it related to the Executive Secretary's office during the past year, would seem to justify calling to your attention the desirability of undertaking extensive research work as soon as funds are available with which to finance such an additional activity.

PRESIDENT MCLEOD: The next business in order is the Report of the Treasurer. The Treasurer not being here, our Executive Secretary will make the report.

FOURTH ANNUAL REPORT OF THE TREASURER

I am very sorry to report that our Treasurer, Mr. Everitt, is ill and had to give up all work, and had to leave New York, which makes it impossible for him to be here today. Following the plan inaugurated by our Association a year ago, the books of the Treasurer were audited by a Committee appointed by your President.

Statement taken from books of Accounts of The National Association of Corporation Schools as of April 25th, 1916, audited and verified by Mr. M. T. Chernich.

From May 5th, 1915 to April 25th, 1916, inclusive.

Cash on hand at close of accounts May 4th,

1915	\$1,057.35
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Receipts

Dues Class "A"	\$5,575.00	
Dues Class "B"	340.00	
Dues Class "C"	698.00	
Sale of First Proceedings	82.00	
Sale of Second Proceedings	115.50	
Sale of Third Proceedings	342.00	
Interest Bank Deposits	20.26	
Contributions	2,135.00	
Miscellaneous60	
Bulletin Subscriptions	108.50	9,416.86
		\$10,474.21

Disbursements

Administration	\$1,674.99	
Bulletin	2,861.90	
Third Proceedings	2,532.40	
Conventions	1,208.64	
Committee Miscellaneous	84.25	
Discount Exchange	5.17	
	\$8,367.35	
Cash balance, April 25th, 1916.....	2,106.86	\$10,474.21

FINANCIAL STATEMENT

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

As OF APRIL 25TH, 1916

Assets

Cash Balance Broadway Trust Company..		\$2,106.86
Cash on hand for Petty Expenses		4.22
Unpaid Dues and Subscriptions:		
Class "A" dues	\$150.00	
Class "B" dues	10.00	
Class "C" dues	110.00	
Bulletin Subscriptions	10.00	
Bound <i>Bulletins</i>	7.50	
First Proceedings	7.50	
Second Proceedings	10.50	
Third Proceedings	25.00	\$330.50
		<hr/>
Proceedings and Bulletins on hand:		
Bound volumes of Proceedings of First Annual Convention 338@\$1.50....	\$507.00	
Bound volumes of Proceedings of Second Annual Convention 576@ \$2.00	1,152.00	
Bound volumes of Proceedings of Third Annual Convention 654@\$3.50	2,289.00	
Bound volumes <i>Bulletins</i> 81@\$2.50..	202.50	
Unbound <i>Bulletins</i> —400 cost.....	23.00	
		<hr/>
	\$4,173.50	
Deduct 75% for loss, etc.....	3,130.12	\$1,043.38
		<hr/>
Total Assets		\$3,484.96

Liabilities

None.

Memo

Cash sales independent of membership during period from May 6th, 1915, to April 25th, 1916 (inc) :

First Proceedings—38.

Second Proceedings—37.

Third Proceedings—67.

RECONCILIATION OF ACCOUNT

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

WITH

BROADWAY TRUST COMPANY OF NEW YORK

AS OF CLOSE OF ACCOUNTS APRIL 25TH, 1916

Balance, as per check book.....		\$2,106.86
Balance, as per bank statement.....	\$2,455.06	
Deduct outstanding checks:		
No. 609, dated 4/21/1916.		
Payee, The Trow Press, for		
3,000 copies April <i>Bulletin</i> ..	\$174.80	
No. 610, dated 4/21/1916. F.		
C. Henderschott. Salary..	125.00	
No. 611, dated 4/21/1916 Post-		
master. Postage on May		
<i>Bulletin</i>	48.40	348.20
		\$2,106.86 \$2,106.86

April 26th, 1916.

Gentlemen:—This is to certify that balance at credit to the account of The National Association of Corporation Schools with the Broadway Trust Company of New York as of close of business on April 25th, 1916, amounts to \$2,455.06 including deposit of \$15.00 on April 25th, 1916.

BROADWAY TRUST CO.

DETAILS OF UNPAID DUES AND SUBSCRIPTIONS.

CLASS "A":

Metropolitan Life Insurance Company		
pd. 4/26/16	\$50.00	
State Trade Shops of Connecticut....	50.00	
The Trow Press	50.00	\$150.00
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CLASS "B":

Bolles, F. N. (Edison Company)....	\$5.00	
Packard Motor Car Company.....	5.00	\$10.00
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CLASS "C":

Brennock, T. L., Mr.....	\$10.00	
Broadhead, J. A.	10.00	
Douglas, P. H.	10.00	
Glynn, F. L.	10.00	
Goodwin, W. S.	10.00	
Green, J. J.	10.00	
Hawkins, N. A.	10.00	
Lewis, E. St. Elmo	10.00	
Locker, W. C.	10.00	
Thomas, A. A.	10.00	
Woodfield, C. L.	10.00	\$110.00
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FIRST PROCEEDINGS:

Seattle Public Library	\$2.50	
University of Kansas	2.50	
University of Oregon	2.50	\$7.50
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SECOND PROCEEDINGS:

Seattle Public Library	\$3.50	
University of Kansas	3.50	
University of Oregon	3.50	\$10.50

THIRD PROCEEDINGS:

Evansville Public Library	\$5.00	
Municipal Reference Library	5.00	
Seattle Public Library	5.00	
University of Kansas	5.00	
University of Oregon	5.00	\$25.00

BULLETIN SUBSCRIPTIONS:

Director of Attendance, Dept. Board of Education—Minneapolis, Minn...	\$2.00	
Dept. of Business Administration, Sheffield Scientific School—New Haven	2.00	
State Normal School Library—Salem, Mass.	2.00	
Thompson, Jas. S.	2.00	
Walls, Miss Charlotte Ripon—Wis...	2.00	\$10.00

BOUND BULLETINS:

State University of Iowa	\$2.50	
Irwin, G. P., University of Wisconsin	2.50	
University of Pennsylvania	2.50	\$7.50

ANALYSIS OF DISBURSEMENTS

FROM MAY 6TH, 1915, TO APRIL 26TH, 1916, INC.

ADMINISTRATION :

Office Salaries	\$1,033.30	
Postage	472.13	
Printing	125.46	
Stationery	37.60	
Miscellaneous	6.50	\$1,674.99

BULLETINS :

Postage	\$628.94	
Printing	2,187.46	
Stationery	45.50	\$2,861.90

THIRD PROCEEDINGS :

Printing	\$2,499.48	
Postage	32.92	\$2,532.40

CONVENTIONS :

Printing	\$831.54	
Official Stenographers	325.10	
Badges	52.00	\$1,208.64

COMMITTEE MISCELLANEOUS :

Committee on Trade Apprenticeship Schools:

Travelling Expenses	\$28.75	
Stationery	4.00	

Committee on Vocational Guidance:

General Expenses (Dr. Metcalf)	50.00	
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Committee on Codification:

Printing	1.50	\$84.25
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LIST OF CONTRIBUTIONS RECEIVED

American Telephone & Telegraph Company, July, 1915	\$200.00	
Carnegie Steel Company, July, 1915....	100.00	
Commonwealth Edison Company—7/28/15	100.00	
Commonwealth Steel Company	100.00	
Consolidated Gas Company of N. Y., July, 1915	200.00	
The Dodge Manufacturing Co., Sept. 17, 1915	100.00	
Donnelley & Sons Co., R. R., Aug., 1915..	100.00	
General Electric Company, Sept., 1915....	200.00	
Montgomery Ward & Company, July 23, 1915	85.00	
National Cash Register Company, July, 1915	200.00	
The National Tube Company, Sept., 1915	100.00	
Norton Company, 7/24/15	100.00	
Packard Motor Car Company, July 26, 1915	100.00	
Strawbridge & Clothier, Aug., 1915.....	100.00	
The Texas Company, Aug., 1915.....	100.00	
The Trow Press, July, 1915.....	100.00	
Westinghouse Elec. & Mfg. Co., 7/28/15	100.00	
Winchester Repeating Arms Company, 7/1915	50.00	\$2,135.00

THE EXECUTIVE SECRETARY: Since this report was made up there has been received on account of dues, sale of Proceedings and Bulletin subscriptions, \$339.

PRESIDENT McLEOD: You have heard these reports. Are there any objections, or shall they be received and filed? A motion to that effect will be in order.

MR. KENDALL WEISIGER (Southern Bell Telephone & Telegraph Co.): I move that they be received and filed. (Motion seconded and carried).

COMMITTEE ON ALLIED INSTITUTIONS

MR. JAMES A. ROOSEVELT, *Chairman*
ROOSEVELT & THOMPSON
New York, N. Y.

MRS. ROY E. FLETCHER
GENERAL FEDERATION OF WOMEN'S CLUBS
530 Riverside Drive, New York, N. Y.

DR. H. K. HOLLINGWORTH
COLUMBIA UNIVERSITY
New York, N. Y.

MR. ALVIN E. DODD
NATIONAL SOCIETY FOR THE PROMOTION OF
INDUSTRIAL EDUCATION
New York, N. Y.

DR. WILLIAM L. ETTINGER
VOCATIONAL AND TRADE SCHOOLS
New York, N. Y.

DR. D. LOUIS IRETON
INTERNATIONAL TRADE SCHOOLS
New York, N. Y.

MR. NORMAN COLLYER
SOUTHERN PACIFIC COMPANY
San Francisco, California

MR. R. L. COOLEY
CONTINUATION SCHOOLS
Milwaukee, Wisconsin

MR. F. C. HENDERSCHOTT
THE NATIONAL ASSOCIATION OF CORPORATION
SCHOOLS
New York, N. Y.

TUESDAY—MORNING SESSION.

ALLIED INSTITUTIONS

TUESDAY MORNING—MAY 30TH, 1916.

PRESIDENT JOHN MCLEOD, *Presiding.*

PRESIDENT MCLEOD: The next thing on the program is the Report of the Committee on Allied Institutions. On account of the absence of the Chairman of the Committee, Mr. Roosevelt, the report will be presented by Mr. Norman Collyer, a member of the Committee.

MR. COLLYER: I am sure you all regret the absence of Mr. Roosevelt, as I do, for the reason that he has throughout the year held the laboring oar. His location in New York, his active interest on the subject, and his tact and diplomacy in dealing with other institutions have been invaluable to us. I will not take the time of the Association this morning to read the report in full. You have it in your hands. I will simply summarize briefly what we have been trying to do and what we have accomplished. As President McLeod pointed out, the work of the subcommittees up to the time of the last convention was largely in the direction of accumulating data to see where we stood. That was the case with the Committee on Allied Institutions. We tried to ascertain what institutions could be considered allied to The National Association of Corporation Schools. We endeavored to make a survey, so to speak, of the different institutions in the country, and to find out what they stood for and what their organization was and how they proceeded about their business.

During the past year, with the approval of our Executive Committee, a joint committee has been formed with representation from our Association here and from the Joint Federation of Women's Clubs, the National Society for the Promotion of Industrial Education, from the International Trade School Committee, and from the universities. What we all need is more facts. First, we need to have a means of fixing the work that has been done and the information that has been gathered;

then we need to decide between ourselves which institutions are best equipped to carry on a particular line of work, so that there may be no duplication, no running around in circles, no unnecessary efforts at cross purposes. That is well brought out in the last paragraph of the Committee's report, in which Mr. Roosevelt says: "The formation of the Allied Committee, we believe, should produce valuable results during the coming year, as it should, to a large extent, enable the various organizations represented to avoid unnecessary duplication of work."

As to the National Society for the Promotion of Industrial Education referred to on page 9, that society has already accomplished a great deal, particularly in the direction of arousing public sentiment and in promoting useful legislation toward industrial or vocational education. We believe that much can be accomplished by our co-operation with that society. The means by which it can be done are suggested on page 10 of the report. Our society is well organized to collect information concerning the needs of the corporations and what should be best taught. The National Society for the Promotion of Industrial Education can lead in promoting legislation and in putting these facts before the public. That does not mean that all of us, or any one of us, should not assist in his community in influencing public opinion, but the Society for the Promotion of Industrial Education is organized for that end, and has already made a splendid start.

REPORT OF COMMITTEE ON ALLIED INSTITUTIONS

The Committee on Allied Institutions begs to submit the following report to the Fourth Annual Convention of The National Association of Corporation Schools.

During the month of February, with the approval of the executive committee, it was decided that the Committee on Allied Institutions should undertake the formation of a committee to be composed of representatives of various institutions and associations interested in industrial education. After consultation it was decided that for the present, at least, it would be best to keep the proposed committee small and also that it was advisable to have the members located in or near New York, in order that the meetings could be more readily attended. With these considerations in mind, the following persons were invited to join the committee: Mrs. Roy E. Fletcher, representing the General Federation of Women's Clubs; Mr. Alvin E. Dodd, representing the National Society for the Promotion of Industrial Education; Dr. H. K. Hollingworth, representing Columbia University; Dr. D. Louis Ireton, representing the International Trade School Committee, and Dr. William L. Ettinger, representing the Vocational and Trade Schools.

It will be noted that none of the members of the above committee represent either such institutions as New York University or any of the technical schools. New York University is already represented in the Association by Dr. Lee Galloway, secretary of The National Association of Corporation Schools, and therefore, it was believed that we already had his cooperation and could secure his advice. As regards the technical schools it was felt that for the present, at least, it was unnecessary to have them represented, as they are preparing so directly for industry that they already know the specialized needs of both their students and the industries to which their graduates go.

The first meeting of the Allied Committee was held on March 9th, 1916. At this meeting and a subsequent one held on April

6th, it was decided by the members who were present that the general objects of the committee should be as follows:

First—to promote general cooperation between the various organizations represented.

Second—to act as a clearing-house for information in order that there might be as little waste of energy as possible in collecting and distributing data, etc.

Third—that the committee keep in close touch with the Bureau of Education in Washington, suggesting subjects for educational bulletins, as well as supplying the Bureau with information which it might desire and which could be secured through any of the organizations represented.

Looking at this new committee from the point of view of The National Association of Corporation Schools, the reasons for and advantages of cooperation with the several organizations represented may be briefly set forth as follows:

The National Education Association is primarily composed of public school teachers and officials; therefore, this is the body which first comes in contact with the child. Hence it is important that our Association should keep in close contact with what the National Education Association is doing and what is being done in the public schools. In the past, as you are only too well aware, practically all courses of study were devised for the purpose of teaching academic subjects with little or no provision being made for industrial education; a change, fortunately, has now come about, and the futility of entirely neglecting the needs of the many who will go into industry is at last being realized. While the corporation school must always exist and will always have its special sphere, yet certain of the work now being done should undoubtedly be done by the public schools, hence it behooves us to keep in very close touch with the National Education Association, as it will undoubtedly be necessary at times to help not only with suggestions as to courses of study, but also in facilitating part time work, and lastly by supplying from the ranks of our employes industrial teachers.

In connection with the International Trade School Committee, it is of course necessary to have cooperation with this

body, as it is interested in training directly for industry, and the same general remarks apply to it as to the value of cooperation with the National Education Association.

With regard to cooperation with universities, much can be done toward facilitating the work which these institutions are now so willingly doing to promote industrial education. The work which the colleges and universities are doing may be roughly divided into two classes: the first, training students for industrial life, either depending upon the particular institution for executive positions, or to be merely more efficient employees; the second, training special teachers of commercial subjects.

A concrete example of what the universities can and are doing, is the work being done in the New York University in the courses for training teachers of department store employees, which Dr. Lee Galloway describes as follows:

"Many members of The National Association of Corporation Schools have already realized that the demand for systematic instruction of employes is outrunning the supply of leaders who are equipped to carry on this work. A similar situation existed when the public began to demand manual training in its schools and special teachers of commercial subjects. To meet the latter demand, many of our universities and normal schools have established classes to train men and women for teaching these subjects. The new movement of the corporation schools is again forcing universities to meet a new set of pedagogical requirements.

Accordingly, in January of this year, a series of unit courses in Department Store Education was announced by the School of Pedagogy of New York University in cooperation with the Department Store Education Association. These courses were planned as the result of an increasing demand for trained teachers for department store work and were intended to try out the situation. In spite of late announcement, they have been received with enthusiasm by local teachers, and many inquiries concerning them have come from all over the country.

The three technical courses included, first: 'Store System and Salesmanship,' by Miss Beulah E. Kennard, M.A., Director of the Department Store Education Association.

Under 'System' is given the study of the store organization, the productive and non-productive elements and the department unit, and under 'Salesmanship,' an analysis of the selling process, the psychology of the saleswoman and the customer, and the relation of the sales force to the buying and advertising of the merchandise. The course concludes with a brief outline of store policies and commercial ethics.

A second course in 'Textiles and Textile Processes,' based on the analysis and the classification of stock of a number of textile departments is given by Miss Eliza B. Thompson, formerly director of Department of Household Arts, New Haven High School and instructor of Department Store employees.

The third course covers 'Non-textile Merchandise' such as leather, rubber, paper, pottery and glass. This is an innovation in department store training which usually centers about textile merchandise alone. It has been built up from a classification of the stock of non-textile departments and includes a study of shoes, bags, gloves, toilet articles, stationery, china and glassware with many subdivisions. It is conducted by Miss Mary A. Lehmann, B.A., instructor of department store employees.

The students in these courses are some of them teachers in the continuation classes or in high school classes, where the part time system has been inaugurated, by which pupils spend alternate weeks in the school and in the store. Others are planning to complete a full preparation as store teachers by taking advance courses in the summer or fall. In these cases practical experience in selling will be required, and also background courses given either by professors in the School of Pedagogy or the School of Commerce of the University.

An important feature of the work is the constant illustration of raw materials by exhibits and by visits to factories located in or near New York.

The University has decided, as the result of these experimental courses, to add a section in Department Store Education to its Summer School courses. Many teachers from various parts of the country will thus be given the opportunity to do intensive work, giving full time with prac-

tice methods in the stores during July and the early part of August.

A number of saleswomen have asked for a practical course designed especially for them. Such a course has been given in one New York store during the past year with great success.

The plan has been unique. In order to focus attention on the job of salesmanship and its requirements, seven departments were divided into groups which came to the class-room on successive days from nine o'clock until quarter past ten. These classes included the experienced and capable, as well as the inexperienced and inefficient saleswomen. Their interest was a very doubtful quantity, with a spirit of resentment on the part of some and a bored tolerance in others, but confidence gradually increased, and on the twenty-sixth of May, forty-four women received the certificates which stated that they had completed the course and had made a good record in their own department.

The 'certification' was made the occasion of a dinner, to which members of the Board of Education were invited as well as members of the firm, who offered their continued support. In the meantime, a second class had been started early in April, which continued into July, and in spite of interruptions caused by summer vacations, forty-five of these were certificated on the seventeenth of that month.

In September, a third group of classes began their work. This time non-textile departments were selected, such as jewelry, china and glass, stationery and toilet articles, bags and shoes. These were exceedingly difficult departments as their stock is so varied, and this was the first information necessary to put their efficiency in tangible form. The results again surpassed expectations. Not only did these classes show an increased interest and even enthusiasm over their work, but when the pressure of business made it necessary to use part of their own time, they came in the evening to finish the course. Fifty-four girls of this group were certificated, some of them being among the most valued saleswomen in the store.

This plan has worked well, owing to the cooperation of the store, which was willing to forego immediate 'tangible

results.' The time will come, however, and it may not be far distant, when salesmanship will be considered a skilled occupation requiring professional training, then it will be no longer necessary to give this instruction on store time as it will be made a part of the school curriculum or be given in evening classes."

From the above description it will be seen that close cooperation between your association and the universities is not only mutually beneficial, but also necessary.

Mrs. Roy E. Fletcher, chairman of the Vocational Training and Guidance Committee of The General Federation of Women's Clubs, sets forth the work and objects of the Federation regarding education, as follows:

"The education department of the General Federation of Women's Clubs devotes itself to guiding the voluntary service of the members of the Federation in the direction of eliminating illiteracy, in assisting to build up sound educational systems, in working in urban and rural communities along lines adapted to community needs, and in working always in cooperation with the Federal Bureau of Education, the National Association of Education, and other organizations having as their object the furtherance of literacy and understanding of the value of an adequate education among native and foreign born children and adults.

The work of the department is practically carried out through its several committees, each of which recognizes certain basic principles on which it must build, and from which it must work out, and each committee seeks expert advice and makes a study of educational requirements and conditions.

Clubs all over the country turn to the department for guidance, for plans of work and programs which will meet their particular needs. It is a continuous propaganda for the furtherance of practical education along the lines that will equip a boy or girl to become the kind of citizen the United States needs. The department does not place itself as for or against any systems of educational experiments until a thorough study of the subject has been made, and

every phase of the question has been carefully weighed. Through resolutions presented at the stated meetings of the Federation, it at times stands for legislative enactments that are for the welfare of students and citizens all over the country, such as the bill for federal aid for Vocational Education.

The committee on Vocational Education and Guidance is a somewhat recent one, formed to meet the need and the increasing interest of women throughout the country who desire to know how best they may assist in the development of vocational courses in their own localities. As has been said, the work of the committee is primarily that of giving sufficient material to enable the women to act intelligently along the lines of extending vocational education. They need material which will familiarize them with the laws governing their state and city, with the vocational schools and courses, either public or private, already available, what the occupational groups are, with their needs, and the channels through which it is most expedient for them to work.

At the coming biennial of the General Federation of Women's Clubs in New York City, the Vocational Committee will endeavor to have an exhibition of such phases of education as may be taken back and developed in smaller communities, and to distribute literature which will extend the knowledge of the women as to all phases of vocational work being done."

With the ever-increasing influence of women in all public matters, it is undoubtedly valuable to have the Federation represented on the Allied Committee.

In certain respects the National Society for the Promotion of Industrial Education can be of particular aid to the Allied Committee, for as its name implies it is a promotional society, therefore the Society has certain machinery to help promote industrial education, which the other societies and associations do not possess. The Society has already made two surveys for vocational education and has also taken an active interest in proposed educational legislation at Washington; therefore, it would seem that in many respects the Society for the Promotion of Industrial Education is the proper agency to do

similar work for those other organizations which are unable or which consider it unwise to do work of this kind.

Mr. Dodd, Secretary of the Society for the Promotion of Industrial Education, has suggested that his society and our association could cooperate along the following lines:

First—The appointment of a joint committee of the two organizations to serve as a clearing-house, and as a focusing medium on matters of importance to both organizations.

Also, that this joint committee set up the differences in the field work to be dealt with by the two organizations.

Second—The appointment by each association of delegates to the convention of the other association.

Third—That in any city where industrial surveys are under consideration, representatives of The National Association of Corporation Schools located in this community be especially asked to advise and help in the making of such studies.

Fourth—The consideration by representatives of both associations in so far as it seems possible, of such problems as the following:

- a. The training of teachers for vocational work.
- b. The establishment of standards in courses of study.
- c. Apprenticeship and trade agreements in connection with vocational training given either in the public school or by the industries.

The formation of the Allied Committee, we believe, should produce valuable results during the coming year, as it should, to a large extent, enable the various organizations represented to avoid unnecessary duplication of work. It should also tend to secure, for admittedly sound and tried methods of vocational education, support of a strength which it would otherwise be impossible to obtain.

JAMES A. ROOSEVELT, *Chairman.*

PRESIDENT McLEOD: The discussion on this report will be led by Dr. S. B. McCormick, Chancellor of the University of Pittsburgh.

DR. McCORMICK (Chancellor of the University of Pitts-

burgh): Mr. President, Ladies and Gentlemen. First of all, I should like to add my personal word to the eloquent address which you have heard from Mr. Burke, and assure you on behalf of all our educational institutions in Pittsburgh that you have from Pittsburgh a very sincere and hearty welcome.

I have read with quite a deal of interest this report upon allied institutions, and, as has been indicated by the preceding speaker, it really needs no elucidation or illumination. It is quite clear in itself.

I speak, of course, specifically for the University, and may well do this, in view of the fact that the work New York University is doing as one of the allied institutions constitutes a very prominent part of Mr. Roosevelt's paper, and illustrates what may be done in all large centers of population by way of contribution to the different kinds of work carried on in the Corporation Schools.

We should remember that the principle of education as it has been developed in our country is that it proceeds from the top downward and never from the bottom up. Before there were any other schools in this country, Harvard College, now Harvard University, was founded; and the whole development of our educational system, as is, indeed, historically the case in all countries and in all ages, has been from the higher downward, so that not alone in the matter of preparing teachers, as our universities are doing, but in the matter of intelligent direction of educational movements, we must depend very largely upon our universities.

In Pittsburgh we are attempting in our Evening School of Economics and along other lines to do very much the same kind of service which is illustrated in the paper as being done by the New York University.

Now, having said this much, I wish to say just three things, and those three things are these: Through this alliance of the various educational institutions and agencies mentioned, I think that we shall arrive at a finer and more rational system of education, at a larger efficiency in our education, and at a better understanding all through our educational and industrial life.

First, as to the rationality of our educational system: It has been, of course, historically in our country a development very largely along academic lines; and the idea of causing education

to issue in a larger efficiency, except of mere mental efficiency, has not developed until recent times. I have no fear whatever that the movement will result in what is materialistic rather than spiritual in its character, for it is not what is taught nor what is learned, but it is the spirit in which things are taught and in which things are learned which results in what we call character.

In dealing with these problems with a view to larger industrial efficiency, we need not fear that our young people will be commercialized and the quality of our citizenship impaired, unless we choose deliberately to do this thing. It is quite possible to direct our education so that it will result in the largest efficiency, and at the same time carefully guard against any possible danger of lowering the standard and the high aim of all education. In so doing we shall, I am sure, ultimately arrive at a much more sensible, more rational, more effective education in our entire system of instruction. The continual interchange of opinion, of bringing together the various elements in our social, educational and industrial units, cannot but result in great advantage, material and educational, to every part of our country. I fail utterly as a prophet unless, as a result of the Corporation Schools movement and the calling in of these other institutions to consult and cooperate, there will be finally a very much more rational system of instruction throughout the country, meeting much more perfectly the varied needs of the youth of America.

My second thought is larger efficiency; and this, I am quite sure, appeals to all of us. It is a perfectly proper thing that a boy receiving the training of the schools shall have something to show for it in his life, apart from the possession of a certain set of facts and of a certain mental discipline. He ought also to have a certain increased skill; a modicum, at least, of ability to do things.

Of course we understand that all education is primarily with a view to the making of a man, to the production of character; that the residuum of all the educational process is in the creation of something which did not exist before. Yet we are also to remember that a part of this residuum should be larger efficiency on the part of the young man and woman; a greater capacity to accomplish results, to do things; especially in a

country like ours, which is still in process and which must make long and steady advancement before its development will be complete. One, at least, of the effects of this interchange between this organization and the allied schools will be this larger efficiency, without any lessening of the efficiency of the school in the production of manhood and womanhood. Efficiency and spirituality, achievement and character, are not opposites but concomitants. An educational system worthy the name should produce both, and both in largest measure.

A third important result of this Corporation Schools movement in connection with the allied institutions will be a larger and better understanding and a larger and more perfect sympathy between employer and employee. Nothing in our national life is more fundamental, more vitally important than just this. Fallacies, wrong theories, bad practices exist in industry, in education, in every part of our national life, involving the social well-being of the people of the entire nation. If in any period it has been desirable that these fallacies, wrong theories, misunderstandings should be completely eliminated, that time is now.

I know of nothing more important than that the man who employs shall understand sympathetically the man who does the work; and that the man who does the work shall understand sympathetically the problems of the man and of the organization which is employing him. Important as it is to know things and people, it is still more important to understand things and people. Germany knows more about all of the other nations of the world than perhaps the particular nation knows about itself; but I sometimes think, as I look at events, that Germany understands less about these other nations than any other nation in the whole sisterhood of nations. To know things is not necessarily to understand and appreciate them.

Now, when we get together in all these relationships; when these different educational agencies talk with one another, work together, get to know the problems of each, each contributing something to the general result, there will of necessity come an understanding of the whole problem which will result in great benefit. When these men who are planning and doing the work get a new fact, a new idea, a new vision, a new inspiration, there is put into the great body a new element which will be of infinite value in solving the problems which are arising

and which will continue to arise for a good many years to come.

As a result, therefore, of these alliances, I am quite sure that we shall ultimately work out a more rational system of education all through the educational processes; that we shall come into an immensely larger efficiency in education; and that we shall come into a more perfect understanding among all the elements of society and of industry and of education, with resulting benefit to the nation at large.

I want to say in connection with this matter, that what Mr. Burke told us this morning is absolutely true. It could not be too strongly stated. This matter of efficiency in America, a more efficient educational system, is not only desirable, but it is fundamentally necessary. We are shocked and appalled at the horrible loss of life in Europe, and it touches most men at those ages when the loss is greatest of all; but if we imagine for a single moment that that will affect the industrial development of Europe, and the commercial development of Europe, we are greatly mistaken. These nations have learned in military organization and efficiency what will be transferred over, when the war is ended, to industry and commerce. Even the burden of indebtedness and of poverty will be to them a marvelous incentive and a tremendous advantage. Unless we shall wake up, we may be left very, very far behind in the race for industrial, commercial and financial supremacy. This will be bad enough in itself; but in the fact that it will destroy the dream of America to be the world leader in extending the liberty, the opportunity, the blessedness of democracy to the peoples of the world, it will be infinitely worse.

The mission of America to the world is a mission of world well-being, and in order to accomplish it we must not be found lacking in education, in industry, in commerce, or in the character which is the chief product of them all.

PRESIDENT McLEOD: Is there any further discussion on this Report of the Committee on Allied Institutions? If not, the program will be changed a little, and instead of having the report of the Committee on Publication, we will take up the report of the Committee on Special Training Schools, of which Mr. J. W. Dietz, of the Western Electric Company, is Chairman.

COMMITTEE ON SPECIAL TRAINING SCHOOLS

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ACKNOWLEDGEMENT

The Committee gratefully acknowledges the services rendered by Mr. A. J. Beatty of the University of Illinois. With the viewpoint of an experienced school administrator and careful student of educational problems, Mr. Beatty's evaluation of corporation school "Administration" and "Methods of Instruction" is covered in the report.

TUESDAY—MORNING SESSION.

SPECIAL TRAINING SCHOOLS

TUESDAY MORNING—MAY 30TH, 1916

PRESIDENT JOHN MCLEOD, *Presiding*

MR. J. W. DIETZ: Logically, the report of this Committee should come at the close of the Convention, because, as the name implies, it is intended, in a measure, to cover everything that is not covered by any other Committee. In other words, when a school is not a trade apprenticeship school, or office work school, or merchandising school, or some other definite kind of a school, it is a special training school.

We were surprised in our Committee work to find the great variety of plans being used by member-companies in carrying out distinct and specific purposes for their own companies. We found, for instance, that these purposes could really be boiled down to three fairly distinct classes; *first*, the training of employees for their present specific work. The task might be that of running a particular machine, or learning the duties of quite a number of related tasks—a typical plan, by way of illustration, would be that of training telephone operators. *Second*, there is the purpose of teaching a business as a whole. Individual corporations in their special organizations have come to realize that there is a need for bringing before the people within the organization something beyond and broader than their specific duties. So we found that many of the plans which had been developed were designed primarily to give that breadth of view of a business as a whole. Then the *third* purpose is that of helping employees to fit themselves for advancement. Under this head would come many of the voluntary training plans. We will discuss these later under particular types of schools.

The great variety of kinds and means and ways of doing things proved very baffling to our committee, which, as you will remember, is an outgrowth of the old Special Apprentice School Committee. But waiving some of the minor differences aside, we thought it was fair to divide the types of schools into five; *first*, the plans which have for their purpose the teaching

of a company business by a strictly study plan; in other words, taking people from so-called regular jobs, putting them into a school environment, and by school methods teaching them what they should know about a particular business. These courses we found were generally short courses, in other words, where companies were anxious to get results and get them quickly, they were using this so-called study or strictly school method. The second type which has for its purpose either that of training employees for a specific task or teaching a business as a whole, has a combination of study and practice; in other words, the employee is under the regular work environment, but has coupled with that work environment some definite instruction work, and there we found a great variety of uses made of ordinary educational tools, such as the lecture, the recitation, the inspection trip, and all sorts of observation work. In my opinion, this is one of the ideal plans for teaching a business as a whole, it is well adapted to educating employees who have proven their effectiveness and of giving them a variety of work, coaching them as they go along, to broaden their knowledge of the business as a whole.

Quite a number of the companies are using the third plan, that of varying the work at regular definite times. This plan has immense possibilities, but it has not been used to advantage at all; in other words, it lacks definiteness in the way in which it has been used.

There is a great temptation in this particular type of school to let production or the exigencies of the job be the controlling factor; in other words, there is a great temptation to take the emphasis off the educational side and put it on the production side. You must check very carefully to see that you are getting the educational results. There is danger, too, in such a plan that if laxly carried on, and an announcement is made that you have an educational plan, and you start your employees on a more or less indefinite program—and many of the programs are very indefinite—the employee feels that the only way to get a change is to complain about his work. Nothing interferes so much with the spirit of educational work as dissatisfaction on the part of an employee, when he thinks—“well, I have been overlooked here, have gone beyond the time they told me I was to stay, and if I am ever going to move along I must make

a fuss about having been kept here overtime." You can see at once how such a plan would be spoiled, not merely by not being definitely organized, but by not being definitely supervised.

As far as we were able to find in the literature of our Association and in the Committee reports, there has been no classification of corporation schools as continuation schools; (the fourth type) in other words, we have found some thirty companies which have definite plans of instructing employees to fit themselves for advancement, not so much by training in their particular jobs at present, but to give them a breadth of training which, in some way, is related to their present work; in other words, by giving some definite instruction in English, or providing that a man in the shop may be given instruction in mechanical drawing with the distinct purpose of aiding him in the reading of blue prints or instructions.

That field of endeavor, it seems to me, is one of the most promising in our work, and in discussing it with public school people we may be led to feel that there, if any place, we are duplicating the work of the public school system. I think there is practically no danger of that, and in the companies which are most active in their continuation school work we find they are also encouraging their people to use every available educational agency in their community, and then, when they are not getting what they need, they may get it in their own continuation schools. It has tremendous educational possibilities because the corporation school should always deal with problems with which the students are familiar on account of their contact with them in their everyday work.

The fifth type is that of the public or private continuation school worked on the co-operative basis. We have all heard of the University of Cincinnati plan, and we were interested to find that that same idea is being carried out in many communities, and some fifteen or so of our principal companies have availed themselves of that co-operative plan. It is not distinctly a type of school which ought to come under this committee's work, but so many of the companies reported it as one of the ways in which they were carrying on their continuation school work that we felt we were justified at least in classing it as coming under this Committee's work. Personally,

I feel that there is one of the places of contact with the public school system which our Committee on public education cannot well overlook. It gives a definite and concrete point of contact with the public school and brings the public school people into our plans, so they have an opportunity to know more about our other educational problems, and it gets us and our people into contact with the public school system, so that we can see from their point of view as well. It seems to me that our Committee on Public Education could well have that in mind as perhaps a definite starting point for our Association in analyzing the value that we can get from this sort of cooperation plan with public school systems.

I feel that in general the Committee plan is inadequate for the intensive study that we need on these corporation school problems, and I feel that the time is rapidly coming when we will need an educational adviser, or Secretary, or other officer of our Association who will give his full time to consulting and inspection work with reference to the affairs of this Association, and coupled with that, and as a direct outgrowth of that, would be the establishment of standards under which my company and your company could not come into this Association unless our school work met the Association standard, and membership in the Association would thereby carry with it a guaranty of good faith and of results. The fact that we have started seems to me about the only thing at this stage of the game to which we can "point with pride." We have not done a great deal in the way of intensive study of direct help to our companies. At this stage of the report I feel like the little girl who was traveling with her mother on a street car in Chicago. The little girl was very attractive, with the blue eyes and curly hair, that always gain attention, and at the next corner a man came in and sat down opposite the little girl and her mother. He apparently had been to market, for he had an open basket of fruits, bananas among them, in his hand. It was not long before there was a flirtation across the car and the man generously offered a banana to the little girl, which she took without comment. Her mother, offering the opportunity to use her good home training, suggested "What do you say?" The little girl hesitated a moment, and replied, "Skin it." Ladies and gentlemen, I present our report to you. "What do you say?"

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- Type I. Company Business—Study Courses.
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CONCLUSIONS.

REPORT OF COMMITTEE ON SPECIAL TRAINING SCHOOLS

"I see that quite a number of companies are trying various means for training their employes these days," says Mr. Business Man. "I have written to a number of companies, and, while they all seem to think that they are getting results, I'm not sure that

their plans would work with us. You know our conditions are special. If I could find out what they are trying to accomplish and how they are doing it, I could mighty soon tell whether or not there is anything in it for our people."

"Mr. Business Man," your Committee on "Special Training Schools" feels just the same way about it. We are not going to give you a lot of details that would probably not fit your conditions, but we have studied the material we have gathered and tried to organize it for you so that you can easily determine whether these training plans and educational methods will help you meet similar problems in your own business. If you want more details, we suggest that you take up your questions directly with some member company which is working in a field and under conditions most nearly parallel to your own.

We believe that the special training courses of various business organizations are a natural outgrowth of modern business needs. It is certain that they have not been established as a result of public sentiment or other outside influences. The fact that many companies require a high educational attainment on the part of those who are accepted for the special training courses is an indication of the attitude of business organizations toward existing general and technical schools. The work of these institutions of higher and technical learning is a common prerequisite for many special training courses, and the fact that it is such, is the highest tribute that business corporations can pay to such schools.

It is simply in the nature of the case that no college or technical school can give its students that intimate knowledge of any business which is essential to the highest efficiency of the technical men in that business. This intimate knowledge can only be gained by personal contact with the actual situations which make up the daily routine in factory, office and laboratory. Herein we find the answer to the question why such schools have been established. Again, each business organization has an individuality all its own, and no amount of previous training can decide whether any particular employe is adapted to that particular business. So these special training courses have a selective function quite as important as their technical training function.

The expense to the companies of these courses is such that a company is justified in making such expenditures only upon such

men as show not only a proper technical ability but a temperamental adaptability to the business, and these factors can only be determined by experience.

This term "Special" Training School, therefore, simply means something different and is used to designate plans which were started after some apprentice courses or other better known plans were established. In our investigation, therefore, we have tried to get in touch with all plans which could not be called apprentice courses (teaching a trade), office work schools (teaching clerical duties), or salesmen's classes (teaching how to sell or advertise).

Generally speaking, the committee is of the opinion that apprenticeship schools have for their chief function the teaching of an entire trade in which manual skill constitutes the distinctive factor, while the special training schools begin with men who show a marked native ability or who have a more or less extensive technical training in other schools. Upon this native ability and technical training as a foundation, they undertake to build a superstructure of specific training for specific duties in the technical and administrative departments of the business, where trained intelligence and a broad general outlook as well as a highly developed technical skill is in demand rather than mere manual skill.

While there is a wide range of ways and means employed in accomplishing the same ends, the reasons for carrying on special training schools in business boil down to three:

- A—To train employes for their present specific tasks;
- B—To teach a business as a whole;
- C—To help employes fit themselves for advancement.

While we found the purposes stated in a variety of ways, it was encouraging to be able to reduce them to three fundamental needs which apply equally to all kinds and all sizes of business organizations. Many organizations recognize the value of giving employes preliminary training for their work; some are finding it worth while to broaden their people's knowledge of their business as a whole, and a number are far-sighted enough to accept responsibility for aiding their employes to take up related study which may have but apparently slight bearing upon an employe's present usefulness. A few companies have definite plans to accomplish all three.

TYPES OF SCHOOLS.

There is quite a variety of types of training plans. This report discusses only ones which are in actual practice by at least two of the member companies. The fact that similar plans have been devised independently to accomplish the same purpose and are being used by companies working under widely varying conditions in different parts of the country and in industries with little in common, should commend the plans for at least careful study before casting them aside as impracticable or having in them nothing that is adaptable to your business or the strengthening of your existing plans.

The classification of the various schools has been a very difficult task. Each school has an individuality which reflects the individuality of the business and the officials controlling it. Our first efforts at classification indicated that we would not be able to reduce the number of types below ten, but by overlooking minor details of organization and retaining only the most general characteristics as the basis of classification, we were able to crowd all the various schools into five fairly well defined groups or types of schools. This grouping we have thought best to set forth in an accompanying table, though there is probably no single school which can be said to fit perfectly into the group to which it is assigned. Broadly speaking, the various types of schools may be fairly well characterized as follows:

TYPES OF SPECIAL TRAINING SCHOOLS.

I. COMPANY BUSINESS—STUDY COURSES.

(Non-Productive.)

Plan No. 1—For new employees.

Plan No. 2—For old employees.

II. COMPANY BUSINESS—STUDY AND PRACTICE COURSES.

(Partly Productive.)

Plan No. 3—For new employees.

Plan No. 4—For old employees.

III. COMPANY BUSINESS—WORK COURSES.

(Productive.)

Plan No. 5—For new employees.

Plan No. 6—For old employees.

IV. COMPANY CONTINUATION SCHOOLS.

Plan No. 7—Day continuation courses. (Partly productive—partly general study classes; on company time; for new or old employees.)

Plan No. 8—Evening continuation courses. (General and special study classes; on student's time; any employee.)

Plan No. 9—Correspondence continuation courses. (General and specific subjects; on student's time.)

V. PUBLIC OR PRIVATE CONTINUATION SCHOOLS—COOPERATIVE

Plan No. 10—(Cooperative Plan—part work and part school course).

STUDY OF TYPICAL PLANS.

(An appendix gives a list of companies using various plans. No one company is following all features listed under a plan.)

TYPE I—COMPANY BUSINESS—STUDY COURSES.

In this type of training plan, the subjects taught and the training given are ones which are directly related to the work of a particular company. The distinguishing feature is the fact that the student-employee spends all of his time in studying, not being expected to do any productive work during the period of training. It is designed to get definite results and get them quickly.

PLAN NO. 1—FOR NEW EMPLOYEES.

Purpose.

- (a) To teach specific duties, or
- (b) To give a broad knowledge of the business—that is its organization, policies, products, methods, plant and personnel.

Results.

- (a) Employees expected to be brought to highest effectiveness in shortest time.
- (b) Employees' fitness for some branch of the business discovered; a broader knowledge will make for more intelligent cooperation; fewer mistakes and more interest in the business.

Characteristic features.

Student's time entirely non-productive;
 Students are selected by the company;
 Attendance is compulsory;
 Attendance is on company time;
 Students receive pay while taking the course;
 Length of course—comparatively short, usually a few weeks.
 Students are grouped at or sent to the most convenient place for instruction.
 Small groups, intensive instruction.

Students.

Selected by Training Department, or
 Selected by Employment Department and approved by Training Department, or
 Selected by company officials;
 Selected by branch managers.
 Plan is adaptable to students whose previous education varies from uncompleted grammar school to high school, technical school or college, or their equivalent.

Educational methods.

Definite plan and outline for entire course;
 Class room work—recitations;
 Individual conferences with instructor;
 Written or oral reports on work;
 Written or oral examinations;
 Home reading and study;
 Observation trips;
 Practice work on school equipment;
 Talks by company officials;
 Records kept of success in educational work;
 Records kept of success after completion of course;
 Records kept of personal characteristics;

Full time instructor;
Specially prepared texts.

Expense.

For teaching specific duties—charged to department using employees;

For teaching business as a whole—charged to general administration;

In some cases, expense of training is charged against future commissions, or charged back to a salesman for training a (junior) salesman's assistant, or charged to the manager of a branch if the branch is financed by the manager.

The principal factors of expense in the order given—student salary; supervision salary; service charges and equipment.

Factors controlling success of this plan.

Selection of students;

Definite plans and intensive instruction;

Close supervision;

Constant revision of study material.

PLAN NO. 2—FOR OLD EMPLOYEES.

Purpose.

Usually to broaden knowledge of a business as a whole.

Results.

Same as for Plan No. 1.

Characteristic features.

Same as for Plan No. 1.

Students.

Selected by department heads or company officials;

Selected on account of proven success and capacity for growth.

Educational methods.

Same as for Plan No. 1.

Expense.

Traveling and living expenses usually paid to old employees when sent out of town for instruction.

Factors controlling success.

Same as Plan No. 1.

TYPE II—COMPANY BUSINESS—STUDY AND PRACTICE COURSES.

In this type of training there is less emphasis on the study side and more on the experience in working departments. The proportion varies a great deal. In some, the time on study work is but a small percentage of the total time, while in others as much as half is spent on the study and instruction work. The student is expected to do some productive work, which is a factor in keeping down the cost of giving the training. In general, these courses are longer than those of the first type, and a part of the student's time is employed in productive work under working conditions. The ultimate purpose is to properly prepare students of marked ability for responsible positions on the executive or technical staff of the company.

These students are carefully selected, usually from the graduating classes of technical schools and an effort is made to secure only those of more than ordinary ability. No pains or effort is spared in the training of these men, and during their course of training, which varies from a few months in some cases to four years in others, they are employed wholly on the company's time. They receive salaries varying from forty to one hundred dollars per month from the beginning. The increased demand for the best of the well-trained technical graduates during the past few years has resulted in a very considerable rise in students' salaries.

In addition to these courses for new men, many concerns select from their most efficient old employes a limited number of men to take the same or similar training with the graduates of technical schools. These men, who are already well acquainted with the policies and methods of the firm, are usually able to complete the special training course quite as creditably as the technical graduates, though they are frequently handicapped by their lack of technical training. This lack, however, is offset by their practical training and experience.

The plan of requiring students to spend a part of their time in actual commercial work aims to give these men that insight into the company's business and methods which only experience can give. Judging from the number of corporations who are using this plan, this is a more common type of school than type one. It is less expensive, owing to the part productive plan.

There may be one serious handicap for this type of school. This is the attitude of some foremen and department heads under whom students acquire their experience toward these student workers. The feeling on the part of these foremen and department heads that the student-graduates are being trained for positions better than those they themselves hold or hope to hold, seems to prejudice them against the special training course men to such an extent as to seriously handicap the system. At least one large concern which has been conducting such a school for several years, has recently decided either to wholly abandon the plan, or to modify it in some manner so as to overcome the difficulty. The committee feels that this particular difficulty is not widely distributed, as the above case is the only one which has been called to our attention as serious enough to endanger the success of the plan.

PLAN NO. 3—STUDY AND PRACTICE COURSE—FOR NEW EMPLOYEES.

Purpose.

To give an insight into a business as a whole.

Results.

Employees' fitness for a particular part of the business discovered;

New employees lay a foundation of useful knowledge upon which they can specialize later.

Characteristic features.

Students' time partly productive;

Students are selected by the company;

Attendance on related instruction work is compulsory;

Instruction work usually is given on company time;

Students receive pay while taking the course;

Length of course varies from several weeks to four years

—the majority are about a year;

Instruction work is done in groups;

Varied work assignments under actual working conditions;

Great variety of experience in comparatively short time.

Students.

Selected by Training Department, or
 Selected by Employment Department and approved by
 Training Department, or
 Selected by company officials.
 Under this plan most of the new employes are college trained
 men, or men of equivalent maturity and training, selected
 because of their capacity for accepting responsibility
 after they have gotten well established in the business.

Educational methods.

Definite plans for entire course;
 Training Department shifts men to give a variety of experi-
 ence;
 Work assignments chosen on account of their value as
 experience;
 Order of taking up various work determined by Training
 Department;
 Reports on work done in various departments;
 Outside reading required;
 Observation trips to related work;
 Talks and conferences with instructors and company offi-
 cials;
 Records kept of success in educational work and after com-
 pletion of course;
 Reports received from departments in which student is
 working;
 Full time instruction on study work;
 Supervisor, of experience in working departments;
 Specially prepared texts for study work;
 Specially prepared work scheduled with notes relating work
 experience with study material.

Expense.

Charged to general administration;
 Prorated to departments using the students permanently;
 Portion of salary not earned in departments where students
 are assigned for experience charged to the Training
 department.

Factors controlling success of this plan.

Selection of students;
 Definite plans;
 Closely related instruction;
 Cooperation of departments in which students assigned for experience;
 Authorized and watched by high company officials;
 Careful choice of order in which the work is assigned;
 Not expecting departments not to retain men to bear cost of giving them experience.

PLAN No. 4—STUDY AND PRACTICE COURSE—FOR OLD EMPLOYEES.

This plan varies from No. 3 primarily in the fact that employe's fitness for certain work is discovered before being assigned to the plan, which is intended as an aid in developing the employe for more responsible work. No emphasis is placed on previous education—rather on previous success in the company's work.

The trained employe returns to the department from which he was sent, in which case the department might bear the cost of the training. If assigned to a different department, the expense would be handled as in the case of new employes.

TYPE III—COMPANY BUSINESS—WORK COURSES.

The characteristics of the third type of school are:

- (1) The students' time is made as nearly entirely productive as possible, no time being given by the company for related instruction.
- (2) Students are assigned to work in the various departments of the plant where they work under the same conditions as other employes.
- (3) There is little or no supervision aside from that given by the regular department superintendents and foremen.
- (4) Students are assigned to all or at least to several departments in order to better learn the whole business of the firm.

The method of selecting students for this type of school is exactly the same as in the two preceding groups, except that in some cases the requirement of graduation from a technical school is waived, and frequently high school graduates and exceptionally efficient old employes are permitted to take the courses. These old employes are thus prepared for positions as foremen or executive assistants.

The accompanying table shows in some cases a type is again subdivided into what the committee for want of a better term calls "Plans."

Type III is divided into plan five and plan six. The only difference between these two plans, as indicated in the table, is that plan five provides only for specially selected new employes, while plan six is operated rather for the higher training of selected apprentices in the regular shop courses, or other selected employes.

PLAN NO. 5—WORK COURSES FOR NEW EMPLOYES.

Purposes.

- Opportunity for practical experience;
- To maintain a group of trained men from which some may be selected for more responsible work;
- To train employes for more versatility in the company's business.

Characteristic features.

- Employes' time is expected to be entirely productive;
- No time is given at company's expense for related instruction;
- Students are selected by the company;
- Students' work entirely similar to other employes;
- Students are assigned to several departments;
- No special supervision is given;
- Student may continue indefinitely in a department if the production needs demand it.

Students.

- New employes;
- Selected by Employment Department;

Selected by company officials;
Previous education varied.

Educational methods.

Variety of experience;
By observation of related work;
By questions to fellow employes;
By repetition to gain skill.

Expense.

No separate account kept;
Expense absorbed by department in which the men work;

Factors controlling success of this plan.

Selection of students;
Cooperation of departments in which students work;
Arrangements by which student's requests for transfers to other work can be considered.

PLAN NO. 6—WORK COURSES—FOR OLD EMPLOYES.

Essentially the same as Plan No. 5, except for modifications to fit the needs of employes who had already had some experience. The employe might return to the work which he was doing at the time of entering the course or used as an aid in preparing an old employe for a new position.

TYPE IV—COMPANY CONTINUATION SCHOOLS—DAY, EVENING
AND CORRESPONDENCE.

The Continuation School is a German product, but it is gradually making its way into the educational system of our country both in private and public schools. The broad utilitarian aim which pervades the continuation school is expressed in the phrase, "Learn while earning, and earn while learning."

The purposes of the continuation school are—

- (1) To aid employes to fit themselves for advancement by specific training for more technical work;
- (2) To enable employes to continue their general education;
- (3) To increase the efficiency of employes in their present positions;
- (4) To discover for each employe the particular kind of work which he can do most efficiently.

In contrast with the rigid methods of selecting students in the first three types of schools, here we find no restrictions whatever. Any employe who desires to do so may enroll as a continuation student and attendance is usually voluntary, though in some schools for certain classes of employes attendance is required.

This type of school is marked by a somewhat broader educational outlook than is present in some of the other types, by providing that a very considerable share of the student's time be given to general education instead of confining him to such work as promises greater immediate efficiency in a particular position.

Accordingly, we find classes in English, Mathematics, History, Civics, Geography, Spelling, Hygiene, Typewriting, Shorthand, Sewing, and Dressmaking. These are all in addition to a multitude of subjects directly connected with or related to specific occupations, such as engineering, drafting, machine operation, printing, office work, telephone operation, and salesmanship.

The number of continuation schools is rapidly increasing and this type of school is destined to play an increasingly important part in the solution of the problem of industrial training and efficiency.

The methods of instruction adapted to the continuation school are as varied as the subjects of instruction. A large number of concerns use only the correspondence method. This method will be more fully discussed in the treatment of methods which follows.

PLAN NO. 7—COMPANY DAY CONTINUATION SCHOOLS.

Purposes.

- To aid employes to fit themselves for advancement;
- To continue their general education;
- To increase interest or efficiency in present work;
- To discover employes for various lines of work;
- To learn while earning.

Characteristic Features.

- Students are not selected by Company;
- Attendance is voluntary.

Students.

Any employe who meets the educational requirements for the particular subject or grade of work.

Educational Methods.

Day classes on company time, or
 Day classes part on company and part on employe's time;
 By traveling or local instructor;
 Supervised by company Educational Department or by employes' organization or committee;
 Instructors usually company employes, some instructors and lecturers, professional;
 Instructors usually paid for their time, sometimes required as a part of other duties;
 Subjects taught may be directly essential to a particular business, of related value or of general educational value;
 Classes meet from one to four times a week;
 Class periods from one to two hours;
 Courses vary from a few weeks to progressive assignments covering several years;
 Usually held on company premises;
 Company usually furnishes all necessary facilities;
 School records available for company use.

Expenses.

Made self-supporting through enrollment fees or company contributes to support;
 Company bears all expenses.

Factors contributing to success.

Convenience to employes;
 Flexibility of courses;
 Related to daily interests.

PLAN NO. 8—COMPANY EVENING CONTINUATION SCHOOLS.

Similar to No. 7, except the classes are generally held on employes' time with no pay for time so spent. Courses partly self-supporting; enrollment fee required as guarantee of good faith.

PLAN No. 9—COMPANY CORRESPONDENCE CONTINUATION SCHOOL.

Similar to No. 7 and No. 8, except that it is designed primarily to reach employes who for one reason or another cannot be reached through plans No. 7 and No. 8.

A new departure in this field is the organization of courses by associations of employers and employes.

TYPE V—PUBLIC OR PRIVATE CONTINUATION SCHOOLS—CO-OPERATIVE PLAN.

PLAN No. 10—PART WORK—PART SCHOOL COURSE.

This type is similar to Type II (Study and Practice Plans), except that the study work is done and the administration of the plan is carried on under the direction of public school authorities instead of within the company.

As these features put this class of school in the realm of public education, it is not taken up here, except to point out that the plan is depended upon by some companies to take care of special educational work which other companies are doing within their own organizations.

The expense for educational work is borne out of public funds while the company pays the employe for time spent on productive work.

Here we find at work the principle of cooperation. There is no good reason why this principle which has resulted in so many changes in the conduct of corporate business in recent decades should not also be utilized in the educational work of these concerns. The application of this principle to the special training of employes has been demonstrated by a very considerable number of corporations, as is indicated by the list of schools in the appendix.

There are two distinct plans of cooperation—cooperation between several business concerns in the same or closely related fields, and cooperation between business corporations and public or private schools.

ADMINISTRATION.

In the administration of special training courses, there is fully as little uniformity as in the curriculums. In some concerns the

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supervision of the educational work is simply a side line for some one of the executive officers of the company; in others, it is attached to the duties of the welfare secretary; while in others, we find a regularly appointed educational secretary or director who devotes his entire time to the administration of the educational department. Some organizations have educational advisory committees.

Educational Director.

The chief duties of such an executive are—

- (a) To organize the various curriculums and courses of study;
- (b) To select the instructors for the various departments;
- (c) To supervise and criticise the methods of instruction;
- (d) To aid the instructors in developing text-books and lesson-sheets.
- (e) To adopt a suitable system of records for students' work which should show their industry, their progress and attainment.
- (f) To select the students for the various courses and keep in touch with the sources of supply.
- (g) To keep the higher officials of the company informed as to the needs, the efficiency, the results, and the expense of the work.
- (h) To supervise the records of the department in such a manner as to show the costs of the various courses, and the various items of increased efficiency in the concern which may be attributed to the work of the department.

Such a program as this demands a man of no small calibre and his selection is a task which demands the most careful consideration. Unfortunately the supply of such high-grade men is not equal to the demand and many corporations have been compelled to place their educational work in charge of men who have not had sufficient technical training in school administration to guarantee the highest efficiency.

Most of the men who are in charge of educational departments are graduates of technical schools and in the majority of cases they are men who have been exceptionally efficient in some execu-

tive capacity. These qualifications are highly essential and no one who has not had such technical training and such shop experience should be placed in charge of an expensive educational plant, but technical and theoretical training in school administration as viewed from the standpoint of professional educators is an invaluable asset in such a position.

The first listed function of the educational director, the organization of the curriculums and courses of study will be treated in a subsequent paragraph and will therefore be passed over at this point. Some of the other topics must be passed over for lack of space.

SELECTION OF STUDENTS.

Just as the selection of the educational director is the most important duty of the firm management with reference to the special training courses, so the most important function of the director is the selection of students. Natural ability is the most important factor in the success of any individual, and since the whole purpose of the special training school is embodied in "higher efficiency" of the executive force of the concern expressed in longer tenure and better service, it becomes incumbent upon the educational director to select only such men as show a high degree of native ability reinforced by technical training.

Whether the selection of students should be limited to college graduates is a question upon which there is no agreement. There is no method of determining which is the most important factor in the efficiency of any student, his native ability or his college training. There is a feeling that the broader view with which college men are able to attack a new problem enables them to enter into a closer study of a business with enthusiasm and with a greater probability of mastering it. Native ability and real shop experience without theoretical and technical training are seriously handicapped, while theoretical training without native ability is useless, but there is no way of determining the constant in the equation between native ability and technical training.

The fact that there is a great shortage in the supply of candidates possessing the happy combination of both these assets makes it necessary sometimes to fill vacancies with a less desirable class of students.

The experiences of several educational directors have amply shown that it is not always safe to depend upon the recommendations of college authorities in making appointments. While no one would be inclined to question the sincerity of college executives in making recommendations, the fact that they feel under some obligations to aid their graduates to secure good places, cannot fail to prejudice them to a greater or less degree.

Many of the directors of larger schools make annual pilgrimages to the various technical schools for the purpose of getting into personal touch with available men who are about to graduate.

TEACHERS.

What has been said about the selection of educational directors and students applies with equal force to the selection of teachers. Our instructors must have all the good qualities of both and some things besides.*

There is something about a good teacher which all recognize as the distinctive marks of his ability, yet this something is so intangible as to elude isolation. Some call it personality, some sympathy and some intuition. While we cannot accurately define it or isolate it, every supervisor and every student readily recognizes its presence in the true teacher.

Many of the instructors who have come under the observation of your committee seem to have this distinctive characteristic to such a degree that it must have been made the basis of their selection. Many of them have been highly successful public school teachers where their success seems to have been due to their ability to warm up to the boys

In addition to this essential personality, a successful teacher must have had enough shop experience to enable him to handle any practical problem which is liable to arise. He must know more than the students in order to hold their respect. Students expect a teacher not only to know more than they themselves, but to be a master of the subject he teaches.

* A number of valuable investigations have been made during the past few years on the "qualities of merit in teachers," some of which are the following:

A Measuring Rod for Teaching Efficiency, J. H. Clement, Kansas School Magazine, Vol. 2, March, 1913.

Qualities of Merit in Teachers, Geo. D. Strayer and Wm. C. Ruediger, Journal Educ. Psych., 1910, pp. 272-279.

Qualities of Merit in Secondary Teachers, A. C. Boyce, Journal Educ. Psych., 1912, pp. 144-158.

In order to meet the demand for well-qualified instructors, at least one of the larger corporations has established teacher training courses—normal courses if you please—for the purpose of giving to prospective teachers, technical training not only in class management, but also in the handling of subject-matter according to approved pedagogical principles. This movement is one of the most hopeful signs, and it cannot fail to contribute to a more scientific procedure in the technique of teaching.

The salaries which teachers of the requisite calibre are able to demand, especially in the better positions, are somewhat higher than teachers in public schools receive, and several educational directors in special training schools receive very attractive salaries. This condition indicates the value some organizations place on the desirable combination of technical training, shop experience and pedagogical skill, and these higher salaries will continue until the supply of such teachers is equal to the demand.

CURRICULUMS AND COURSES.

It is not within the scope of your committee's assignment to outline curriculums and courses of study* for any particular type of school. No program of studies which the committee might formulate would suit the needs of any considerable number of schools. We shall feel that we have performed our duty in this regard if we are able first to point out some of the evident weaknesses in existing courses, and second, to discover a few guiding principles which will aid educational directors in curriculum planning.

An examination of a large number of curriculums and courses as set forth in successive year-books of different concerns reveals the fact that they have grown simply by accretion, coral like, without any organic connection between the old courses and the new materials added from year to year.

In a growing institution it is not easy to avoid this difficulty,

* These terms are used as defined by a committee appointed by the National Education Association. See N. E. A. Proceedings, 1914.

Course of study is the work in one subject or a division of that subject running through one term or semester.

Curriculum is a group of courses related to each other, outlined for a particular group of students and continuing through a number of terms or semesters.

Program of studies includes all the different courses and curriculums offered in a school.

and the only remedy we have to suggest is thoroughly to re-organize the various curriculums more frequently, in order that the later courses may be properly articulated with the old ones.

Perhaps one of the most serious faults in curriculums and courses is the lack of a proper time distribution. This point is illustrated in the shop work outline for technical graduates, found in one of the circulars examined by the committee.

The following classes of work were outlined:

Milling Machines, Lathe, Foundry, Grinders, Gear Cutting, Drill Press Screw, Machine Toolroom.

The same amount of time—nine weeks—was assigned to each of these classes of work, without any apparent regard for the varying degrees of difficulty involved in these processes.

Now, any reasonably intelligent technical graduate can be taught in a few hours how to operate a drill press or a screw machine fully as well as an old operator (but not as fast), and there can be no logical reason for keeping a student at such work so long when many of the other processes require so much more time before one can master them.

In the outlines of another concern, tool designing was given ten weeks of shop practice, while a third company gives the same process less than one week, though there is no apparent reason for this discrepancy. Both companies accept only technical graduates, and both are in closely related lines.

This criticism does not apply with such force when the students are engaged in real productive work under shop conditions, and a somewhat arbitrary time distribution for the various classes of work may be necessary in order to keep all the students employed and all the machines busy, but it seems to your committee to be poor pedagogical practice to keep technical graduates employed in any learning process longer than the minimum essential time.

Faulty time distribution is also found in much of the theoretical work. This is one of the chief weaknesses of lesson sheets. Lesson sheets have some decided advantages which will be discussed in a later paragraph, but they are liable to be poorly balanced as to time allotments* and frequently relatively un-

* A valuable discussion of time distribution, of interest to educational directors, is found in the Fourteenth Year Book, Part I, of the National Society for the Study of Education, University of Chicago Press.

important topics are given an equal allotment of time with more important topics and principles.

Recent years have observed a very great development of a broader outlook and a more humanitarian attitude on the part of the management of business concerns toward their employes. This is evidenced by the various phases of social and welfare work and also by the extension of the programs of studies to include courses in general education.

The welfare secretary is coming to be one of the most important factors in great manufacturing plants, and he is doing more to bridge the gap between employers and employes than any other agency. The educational director and the welfare secretary go hand in hand, and together they are contributing to greater industrial efficiency through a new emphasis on some other aims in education aside from the utilitarian.

It has been pointed out in another part of this report that knowledge—knowledge of specific facts and specific processes—is the desired outcome of corporation schools. Efficiency as measured by increased dividends must be the ultimate aim of all business activity, yet this aim need not be unmixed with higher and more humanitarian aims. If we are to accept all that is implied in the aims of our association as a desire to increase the efficiency of industry, we are at liberty—yes, we are under obligations—to take into consideration other educational values besides the practical in our curriculum building. While practical value must dominate, there are frequent opportunities to choose between educational materials which have other educational values in a greater or less degree.

These educational values may be called (see High School Courses of Study, C. O. Davis, Chap. III, World Book Company, New York)—(1) Practical, (2) Intellectual, (3) Political and Civic, (4) Social, (5) Ethical, (6) Religious, (7) Æsthetic, (8) Conventional, and (9) Cultural.

These aims are largely self-explanatory and it is not our function to elaborate them, but we feel that this slight digression may contribute to a better definition of the highest efficiency, and that these other values must be taken into consideration in outlining courses of study.

The proper sequence of topics is also an important item which

enters into the planning of any course of study, and unfortunately it is one which has not received due consideration.

This lack of proper arrangement of lesson subjects is a natural outgrowth of building courses and curriculums piece by piece instead of planning all with a view to the inter-relation between the several parts of the courses. An illustration of this point is found in a course of mechanical drawing, examined by the committee, in which several early lessons involved working drawings of machine parts, while the lessons on such elementary problems as drawing parallels and perpendiculars were deferred to a much later place in the course. This is perhaps an extreme case, but it is not at all exceptional.

These examples emphasize the importance of guiding principles in planning curriculums and courses. These principles we summarize below :

Each course, and each topic in a course, and each shop assignment should be allotted only such a proportion of the entire time available as will enable students to attain a reasonable degree of mastery of it.

Time distributions must be made with the entire curriculum in view, and hence must be the result of painstaking consultation between the various instructors and the educational director.

Time allotments should be made with due regard to the relative educational values of the various lesson or course units.

A proper sequence of various lesson and course units should be observed.

TEXT-BOOKS.

Next after a good teacher a good text-book is the most important educational factor in any educational institution. Every successful school book reaches and affects the lives of thousands of students, contributing not only to their knowledge but to their ideals.

"The American text-book is the most perfect feature of our schools (A. E. Winship, *Journal Educational Psychology*, Sept. 15, 1915). More money, more brains, more skill, and more art have been put into text-books in America than have been put into teacher training. Successful text-book writers require a high degree of knowledge. To the uninitiated, the writing of school-books seems a simple matter, but, on the contrary, it is an ex-

ceedingly difficult matter, for the author must not only be able to write in purest style with all the facts of his subject at his command, but he must be a master of simple, concise English. The making of text-books is a fine art, but very few school text-books can be called either a financial or a pedagogical success."

The causes of failure of text-books are many. Some fail through a lack of an attractive literary style, some lack broad scholarship and fail through riding a hobby. Your committee has sought diligently for a text-book on how to write text-books, but has sought in vain. We have been able to find plenty of destructive criticisms, but no one to tell how to construct them. We have been therefore thrown upon our own resources in treating this important phase of our educational work. We have made an effort to examine as many as possible of the texts used in special training schools, offered on the market for such use. Directors of education have been quite ready to respond to our calls for information in regard to books used and have been very liberal in sending copies of their text-books and lesson sheets. The great variety of text-books and lesson sheets shows that in this regard as in most others, there is little uniformity, either in the extent of courses outlined or in the quality of text-books and lesson sheets. Both extremes of quality are found, with the majority of them in the middle ground.

A well-known publisher of commercial text-books pays a high tribute to the better class of lesson sheets in the following letter:

"We are deeply indebted to Corporation Schools, for they are the 'road makers' in the way of text-books. We have adopted into our texts for public and private schools many of the ideas worked out in the laboratory method in your schools."

Your committee is unable to state even approximately what proportion of corporation schools use text-books and what proportion, lesson sheets, though doubtless more than half of them use text-books. If this is a correct estimate, and if use is any criterion of value, it is quite impossible to state which is better suited to our needs.

The number of text-books suitable for our schools is rapidly increasing, though in the past, many of the books offered have been subjected to a great deal of unfavorable criticism. Without doubt, much of this criticism can be justified. Many text-books have not been kept up-to-date, though this criticism seems

to us to apply fully as much to those who use the text-books as to the publishers. No publisher can justly be blamed for continuing to issue a book so long as there is a market for it. The expense of writing and publishing text-books is very high. Talent of sufficient calibre to write good books usually commands fancy salaries and the expense of revision of an old edition is sufficient to induce a publisher to wait as long as possible before discontinuing an old edition. A representative of a well-known publisher of high-grade text-books recently stated that his company frequently invested \$25,000 in editorial work, plates, binding, and in advertising, before a single dollar was received in return for a new book.

One of the frequent criticisms against regular text-books is that they are not adapted to our needs. This is a serious criticism. The material, if the criticism be true, is too general, or not near enough to date from a scientific standpoint, or it is too impractical.

Without doubt each of these charges can be maintained in individual cases at least, yet we feel that in general they are not true, and are becoming less true very rapidly. It is not an easy matter to select the best book for a particular course, but there can be no reasonable excuse for using a book copyrighted in 1890. Yet the committee found a case of the use of such a book in the school of one of the most progressive business concerns in the country, and that too in a subject in which a dozen or more new books were issued every year.

If text-books as an educational factor are approximately on a parity with teachers, the selection of text-books ought to receive fully as careful consideration as the selection of teachers. In comparing text-books with lesson sheets, there are evident advantages in each. Text-books are presumably organized with a broad outlook for the entire subject to be considered. By this we mean that in a good book there is a unity of treatment; the field to be covered is laid out, in general; with due emphasis upon each subdivision of the general field, and with coherence, continuity, and proper sequence of topics. The criticism that regular text-books are too general has doubtless a too wide application in fact.

The dominant characteristic of corporation school training is its specificity, i.e., its direct application to particular work for

which students are preparing, and in so far as the training is for specific processes in specific occupations, the general text-book is a misfit. However, the same criticism applies to a very considerable number of lesson sheets which have come to the hands of the committee. In many of these there is a noticeable preponderance of general or impractical work.

An illustration will make our meaning clear. One of the series of lesson sheets on applied mathematics begins with the most elementary steps in arithmetic, and proceeds rapidly through arithmetic, algebra, geometry, trigonometry, and mechanics. We quote a problem from the sheet supposed to be based upon shop experience: "Four locomotives consume respectively 390#, 543#, 621# and 464# of coal per hour, how much coal will they all use in an hour? How much coal will they consume running night and day for a week?" Each question involves a situation which would not be possible in practice, and can therefore not be expected to contribute to vocational efficiency. By attempting to be specific, the writer has certainly become ridiculous. The number of such illustrations might be multiplied; all of which goes to show that the making of text-books or lesson sheets is no amateur's job.

Some of our business concerns and our educational directors have been so busy keeping up-to-date in business matters that they have exposed themselves to the criticism of neglecting to keep in touch with more recent developments in educational theory and practice. In no field of applied science has there been a greater reversal, or abandonment of former theories and practices than in the field of educational psychology. The old faculty theory of mind has been abandoned by practically all reputable psychologists, together with the theories of training of these faculties.

In view of these facts, it is especially noticeable in some of the literature that has come to our hands, that the writers are not up to date in the matter of either of psychological terminology and practice, or in the psychology of mental processes. We quote from a lesson-sheet before us: "We exert our will constantly to the study of the subject, and then through a process of reasoning, we store knowledge in our memory, which finally results in the building up of an education." Another lesson-sheet says, "We live in habit; good habits are as easily formed as bad

ones, . . .” These statements, which are fair samples of some of the psychological theory contained in lesson-sheets, would scarcely pass muster with any reputable psychologist. These faults are, of course, not inherent in lesson sheets. Many of those examined fully justify the compliment quoted in the letter above, and many of the best schools use only lesson-sheets.

That lesson-sheets have a decided advantage over text-books cannot be questioned, but that they are also subject to most of the faults of text-books and some others besides is equally true.

The demand for a clear and simple literary style, for broad and up-to-date knowledge, for accuracy of statement, is no less imperative upon writers of lesson-sheets than upon writers of text-books.

The chief advantage of lesson-sheets consist in the greater ease with which they may be reorganized and revised, the feeling of novelty which accompanies the receipt of each new lesson and in their greater flexibility. On the other hand, there is an evident tendency to give their mechanical makeup less care than would be given to the making of text-books. There is also a noticeable tendency to make them “Scrappy” and lacking in that coherence, unity and completeness which characterize good text-books. However, even poor lesson-sheets are better than none at all.

We had hoped that our study of texts and lesson-sheets would enable us to formulate some principles which should guide in making them, and while the following suggestions can scarcely be dignified by the term “principles,” we offer them as the results of our study—

1. Books must be truthful, at least in so far as to avoid mis-statements known to be such by well-informed persons. Many books show evidence of being written by persons who have little accurate personal knowledge of the subject treated.

2. Books must be up to date. Out-of-date knowledge, out-of-date processes, out-of-date facts and out-of-date opinion, have no place in up-to-date text-books or lesson-sheets.

3. Correctness, clearness and simplicity of statement, as well as accuracy of fact, are essential.

4. Completeness of treatment so far as the time of the proposed course will allow should be the aim.

5. A proper sequence of topics and subdivisions must be observed.

6. Lessons should be logically arranged and with proper gradation as to difficulty.

This discussion of text-books and lesson-sheets, and the criticisms have been made, not for the purpose of finding fault, but for the sole purpose of pointing out their most frequent shortcomings, with the hope of inducing greater care in selecting and preparing them.

METHODS OF INSTRUCTION.

Some successful corporation school instructors do not quibble over the difference between teaching, training, instruction and education, nor do they waste time in evaluating the various aims of education, such as the cultural aim, the social aim or the conventional aim. Their emphasis is upon the practical aim,—upon knowledge, and not only knowledge of facts but upon knowledge of how to do.

Whether this apparent apathy toward pedagogical and psychological refinements is an unmixed good, is a question. The apparently better results obtained by some corporation schools are due, in part at least, to this emphasis upon knowledge of facts and of processes, but that better results might be obtained by a greater attention to questions of modern educational usage. This is not a suggestion that an attempt be made to apply such usages with a blind attempt at uniformity. Uniformity in practice in any system is a mark, either of perfection attained or of satisfaction with a lack of perfection. Where uniformity is supreme, progress is always lacking. If these dogmatic statements and their implied opposites are true, there are surely many signs of progress in the multiplicity of educational methods in use in the various schools.

Without doubt, much of this variety is owing to the fact that many of the special training schools are still in the experimental stage, and the time has not yet been sufficient to determine which is the best method, or whether there is any best method. The many kinds of business represented in the different schools naturally require different methods. The committee feels that one of the most valuable services it can render is to recommend a wider use of available books on the learning pro-

cess. Experimental psychology has much to contribute in this field.

Some of the most widely used books available are—

Colvin, *The Learning Process*.
 Bagley, *The Educative Process*.
 Bagley, *Class-Room Management*.
 Bryan, *The Basis of Practical Teaching*.
 Hollister, *High School and Class Management*.
 Whipple, *How to Study Efficiently*.
 McMurry, *How to Study*.
 Lapp and Mote, *Learning to Earn*.
 Betts, *The Recitation*.
 McMurry, *Method of Recitation*.
 Earhart, *How Pupils Study*.
 Young, *Teaching of Mathematics*.
 Smith, *Teaching of Elementary Mathematics*.
 Swift, *Mind in the Making*.
 Sandwick, *How to Study and What to Study*.

While correct theory is quite essential in any educational method, if the best results are to be attained, the relations between students and the school are doubtless fully as important. In the latter particular, corporation schools have attained an enviable success. We visited a considerable number of schools and everywhere we were impressed with the attitude of the students toward the school. We inquired whether this attitude was owing to any particular aptitude of the students for the particular courses they were pursuing. The reply was, "It is not a matter of 'aptitude,' but of attitude."

The truth of this statement was emphasized by the replies made by several students that they were not conscious of any special leaning toward the kind of work they were doing, but that they had taken the first job that had offered itself. If then, aptitude does not account for this desirable attitude, we must account for it in some other manner. It is the most valuable asset in the educative process and is earnestly coveted by the management of every educational institution. This attitude is noticeably lacking in some public schools and this lack is doubtless responsible for the low efficiency of such schools.

Corporation schools then have in their ability to develop this

proper student attitude, an asset of inestimable value, the basis of it is well worth discovery.

Some hold that it is the greater specificity of the training. As stated above, the emphasis upon usable knowledge leads the student to feel that his school-work has a vital relation to his future, that the mastery of the task in hand is the measure of his future success. Some claim that the financial phase of the relationship between employers and students is responsible for this attitude. Of the force of this claim there can be no doubt, yet the same attitude in trade and technical schools, where no wages are paid and high tuition charged, proves conclusively that wages is not the only factor. Others would have us believe that this attitude is owing to the shop discipline, infractions of which would probably result in dismissal, and numerous cases which came under the observation of your committee, lend plausibility to this explanation. Some others claim that better trained teachers in corporation schools are responsible for this better attitude of students. While this may be the case in some schools, it is doubtful whether corporation school instructors have any better preparation on the whole than secondary school teachers.

SPECIAL METHODS.

In our discussion of methods, we must not lose sight of the fact that the best methods fail with poor teachers and a good teacher will secure good results by any method. The teacher is the chief factor in an educational process, and text-books and methods are of secondary importance.

STUDY AND RECITATION METHODS.

It is perhaps natural to expect to find many classes conducted on the study and recitation plan. It is doubtless the oldest and most widely used method in all kinds of schools. The truth of this statement does not prove that it is the best method, but the fact that it has stood the test of generations of use in the best schools, and that it is still doubtless used in more classes than all others combined, are evidenced in its favor which no thoughtful seeker after the best method would disregard. So nearly universal is the method that it is not necessary to describe it.

The advantages of the study and recitation method are ap-

parent. First, it is definite. A skilled teacher makes a definite assignment, and if the assignment is properly made, the students know exactly what is required of them and are anxious to be about the task as soon as the recitation is over.

The assignment of the next lesson should always include a review of the work to be accomplished, with emphasis upon the difficulties to be met and hints at the method of attacking them. The proportion of time which should be taken for the assignment of the next lesson will vary with the subject and with the class, but it is safe to say, in the interest of economy, that a minute well spent in preparing a class to study the next lesson will save many minutes for each individual in mastering it. We believe that from 20 per cent. to 25 per cent. of the total recitation time can be profitably used by the skillful teacher in assigning the succeeding lesson. Secondly, the study and recitation method gives the teacher an opportunity to know exactly how much of the work is being mastered by each student. Please note that we say "opportunity," for we know that this opportunity is not always used. Third, the study and recitation plan enables the teacher to place proper emphasis upon principles and theory. This advantage is frequently misused by teachers in over-emphasizing theory and principles, and neglecting to properly stress their practical applications. Fourth, this method offers frequent opportunity for reviews; and reviews are a most important element in any learning process. Nothing can be well remembered which has not been well learned, and reviews are a most valuable test of these processes. The question of the proper share of time to be devoted to reviews is also one for which no definite rule can be made which will apply to all cases, but it is safe to recommend that no recitation should pass without a specific reference to some important facts or principles of former lessons, for the purpose of fixing them in memory.

SUPERVISED STUDY.

Closely related to the above discussion is that of methods of study. It is usually taken for granted that advanced students know how to study efficiently, and are able to make their way alone. Older students doubtless need much less help in studying than do younger ones, but some supervision of study is in any case a great means of economy of students' time and effort.

The most approved method of supervised study provides for a double period for each lesson. This double period is spent, part in review, part in recitation, part in the assignment of the next lesson, and part in studying the next assignment under the guidance of the teacher, whose duty it is to make such suggestions as will best aid the student to master the lesson with a minimum of time and effort.

School administrators who have worked out the plan are loud in their praise of the advantages of the system (see *School and Home Education*, February, 1915).

LIBRARY METHOD.

Another related method is denominated the library method, though it is an error to speak of it as distinctive method, since the use of a reference library is an essential part of any course of instruction, by whatever method, and instruction in the proper use of reference and other books constitutes one of the teacher's most important duties.

The student who has been taught to make use of a reference library has been placed in a position where he can make his own way with a minimum of aid from the instructor. He has been made master of a most effective tool of education.

LABORATORY METHOD.

It is not long since the term laboratory had a much narrower meaning than it has to-day. It used to be a room set aside for exclusive use in conducting scientific experiments and investigations.

While this use of the term is still common, a much broader meaning of the laboratory method has gradually come into use during the last decade. Now we hear of the laboratory method of teaching history, commerce, Latin, and mathematics, as well as sciences. This wider use of the term grows naturally out of the etymology of the word, i.e., a place for work, and any method of study in which manual activity is the dominant or even an important factor, may be called the laboratory method. The teaching of business by the "actual business" plan, or by actual participation in real commercial activities employs the laboratory method. It is the method in vogue in manual train-

ing and domestic arts work in public and private schools, and it is considered the only adequate means of mastering the technical processes of engineering. It is the shop method.

The value of this method is attested by long and continuous use. "Learning by Doing" is the slogan of the laboratory method and the applicability of it is increased by the fact that many cannot learn efficiently by any other method. This method has some decided advantages over the study and recitation method. Among these are the fact that what one actually puts into action or form is much more thoroughly ingrained into the brain fibre than what is simply read about, thus it contributes not only to manual dexterity but to mental development as well.

In much of the laboratory and shop work, the student assignments perform a double function: it serves an educational end in developing a mastery of processes, and a financial end as well, since much of it is real productive commercial work. There are certain drawbacks to the laboratory methods which are a serious handicap—

(a) This method is much more expensive, owing to the costly equipment, and to the materials used up or wasted by beginning students;

(b) Good shop, or laboratory teachers are much more difficult to secure than good recitation teachers, and they command relatively higher salaries;

(c) It is difficult to keep the work properly organized, for each student necessarily does individual work, and no two students will attain the same stage of advancement at the same time. This results in a practical difficulty in relating the accompanying theoretical study to the practical work.

Much of the laboratory work as conducted in corporation schools is carried on in the regular shops, where the students are assigned to a task, either for a specific length of time or until a satisfactory degree of skill is attained. The latter of these methods is doubtless the better pedagogical practice, but the necessity of system makes it more convenient in many cases to adhere to a time schedule in order to keep all the students and all the machines busy.

A combination of the study and the laboratory methods is doubtless productive of the best results. It properly correlates the practical with the theoretical, the actual with the ideal. Each

one reinforces the other. As to the relative emphasis, or the relative amount of time to be given to each kind of work, it is difficult to lay down a rule applicable to any considerable number of schools. It is doubtless safe to say that in no case should the study and recitation method occupy more than half of the students' time, and perhaps, for many cases, a smaller allotment of time for study and recitation would be advisable.

The part time cooperative schools in which students work at their regular tasks a part of each day and attend a cooperative school the remainder of the day, present a very satisfactory combination of study and laboratory methods. Some cooperative plans provide for the pairing of the students so that each one works alternate weeks in the shops, while his alternate is in school. School administrators where this plan is followed are usually enthusiastic in their commendation of it.

PROJECT METHOD.

The project method is simply a special phase of laboratory work. The term "The Project Method" is of comparatively recent origin. It contains, however, the essence of the best pedagogical practice, and as such, is making its way rapidly in various kinds of schools. It is almost the direct antithesis of division of labor or piece-work.

The factory method of piece-work is deadening to interest or development where the monotonous repetition of simple movements in making parts of a complete product is carried on without any interest in or knowledge about the other parts of the completed article.

This condition is the natural result of machine work and the factory system, and it is probably impossible to return to the time when there were shoemakers instead of cutters, vampers, turners, liners, and inspectors as we have them to-day. There are, however, many opportunities even in this day of specializing, for students to work at entire projects including all the various steps in the process from the beginning to the completed project, and where it is feasible, the project method is to be recommended. It is quite essential for those students who are to become shop foremen, or foremen of installation gangs, to become masters of entire processes including the details of every step. Thus while the project method may not be applicable to the exclusion of other

methods, it should have a place wherever possible in the organization of shop and laboratory courses.

LECTURE METHOD.

The lecture method is essentially a university method. It is used almost exclusively in the German universities and is quite common in other countries.

Work under this method, when employed without some combination with other methods is very likely to be superficial, but when used in connection with required study and a quiz-recitation, it can be made very effective. It is especially adapted to large groups of students and advanced workers who are able to do independent work with a minimum amount of guidance on the part of the instructor, but even with these classes of students, it loses much of its effectiveness unless they are held responsible for proper notebook work, and are subjected to quizzes and tests as evidence that they have done the assigned reading and research work.

This plan has the advantage of bringing students into contact with prominent men who are leaders in their particular lines of work, and whose personality is frequently a source of inspiration for students. A good lecturer is frequently the means of giving young men a vision of their possible attainment, and of the possibilities of particular professional careers, which points of view can be obtained in no other way.

One danger of the lecture method is the temptation to cover too much ground. It not infrequently happens that a lecturer touches superficially in one or two lectures, the ground which would under other methods require several weeks to consider. Few students have the ability to move so fast. If this method is to be the regular plan of instruction in any school, the lecturer should by all means limit the number of topics considered to what can be digested by the majority of the class.

CORRESPONDENCE METHOD.

The correspondence method has many points in its favor. A large number of students can be taught by a smaller force of instructors than by any other method. This plan requires a minimum amount of equipment, and is especially adapted to

subjects of a general nature, as well as to such subjects as salesmanship, advertising, and office methods.

The correspondence method is a comparatively recent development. It has its origin in a desire to provide a substitute for regular school or college work for such students as were for any reason unable to attend ordinary school sessions. The method has gradually spread until at present there are a number of nation-wide organizations for carrying on correspondence instruction. So successful has the plan proved to be that a number of business concerns having offices, stores, or employees in many widely separated centers, have adopted this plan of instructing their men, as the only adequate available plan. Representative firms using this plan are indicated in the accompanying table.

The advantages of this plan are—

It enables the educational director to reach a large number of employes when their number in any one locality is so small as to make any other plan impractical.

It enables a relatively small corps of instructors to teach a large number of students.

The correspondence method usually emphasizes a single point in each lesson, thus contributing to clearness by undivided emphasis.

It requires that the recitations be written, and since what is written is usually done with care, it contributes to greater exactness and clearness in the recitation.

The written replies are usually criticised and graded by instructors and are returned to the students who after a lapse of a few days are better able to appreciate criticisms and to correct their own errors.

If the student has access to proper library facilities and lesson-papers are returned promptly, there is no reason why the correspondence method should not be a highly efficient plan.

The plan has the disadvantage of denying to the student the personal contact with teachers which is important in any educational plan.

Students are deprived of contact with other students in classes, and of the benefits which arise from class discussions.

The plan is applicable only in a limited number of subjects, and is least applicable to such courses as require laboratory practice.

It is subject to the serious handicap of faulty English. Many students experience a great deal of difficulty in reducing to intelligible written form things which they understand quite well. The plan, in many cases, furnishes a better training in English composition than in the subject-matter in question.

INSPECTION TRIPS.

For the purpose of giving the students a broad general view of the business of any concern, there is no adequate substitute for the observation or inspection trip.

So important is this method considered by some companies that they organize these study tours with fully as much care as the study or the laboratory courses. One very large concern, first details students to act as messengers about the plant and to the various substations and agencies in different parts of the city, for no other purpose than to familiarize the students with the geography of the plant. Later, the students are detailed as general assistants in different substations in order that they may become thoroughly familiar with the general policies and activities of the company.

In another large manufacturing plant, the students—college graduates—are required to report to different department heads on successive days and are given detailed instructions as to what they are to observe in each department. This routine, sometimes lasting for several weeks, is continued until the rounds of all the different departments are made.

In other schools instead of bunching all the inspection trips together, they are spread throughout the year, which plan is doubtless in keeping with sound pedagogy.

The entire program of excursions and observation trips is in accord with the best school practice, since it adds novelty to the daily routine and gives students a broader foundation upon which to build a thorough knowledge of the business.

In our discussion of educational plans or methods, it has been our aim not to outline in detail any particular method, but to discuss generally the various distinctive methods of educational practice.

The greater burden of properly correlating these various methods and organizing them into practice is the task for the intelligent teacher and educational director.

CONCLUSIONS.

Instead of making a large number of recommendations, we would direct you to the suggestions that have been made at the end of each of our larger subdivisions.

As suggested there, we believe that instructors and educational directors can best serve the special training schools by greater care in the organization of curriculums and courses of study.

We suggest a more careful selection of educational materials, a more scientific time allotment to various topics, courses and tasks and greater diligence in the selection and arrangement of materials and topics in lesson-sheets and text-books.

We believe that our educational forces can add greatly to their efficiency by a more careful consideration of the principles of pedagogy and educational psychology, and a more diligent use of the vast amount of available literature on school management and the technique of teaching.

We believe that adequate supervision and proper administration in these matters will pay as big return in corporation educational work as in the fields of production and distribution.

APPENDIX No. I

TYPES OF SPECIAL TRAINING SCHOOLS

		CHARACTERISTIC FEATURES										METHOD OF INSTRUCTION							
TYPE	PLAN	SUBJECT MATTER	PURPOSE	ATTENDANCE COMPULSORY	DAY OR EVENING	WORK PRODUCTIVE	FOR NEW OR OLD EMPLOYERS	ENTRANCE REQUIREMENTS	STUDENTS RECEIVE PAY	WHOSE TIME	STUDY AND RECREATION	SUPERVISED STUDY	LECTURES	LABORATORY	SHOP WORK	CORRESPONDENCE	OBSERVATION TRIPS	NO. OF SCHOOLS	
I	1	Company business and specific duties	Business as a whole	Yes	Day	No.	New	Varies	Yes	Company	X	X	X	X	X	-	-	X	12
	2	Company business and specific duties	Business as a whole	Yes	Day	No.	Old	Satisfactory Service	Yes	Company	X	X	X	X	X	-	-	X	6
	3	Company business and specific duties	Business as a whole	Yes	Day	Part	New	Varies	Yes	Company	X	X	X	X	X	X	-	X	8
II	4	Company business and specific duties	Business as a whole	Yes	Day	Part	Old	Satisfactory Service	Yes	Company	X	X	X	X	X	X	-	X	11
	5	Company business and specific duties	Business as a whole	Yes	Day	Yes	New	Varies	Yes	Company	-	-	-	-	-	-	-	15	
	6	Company business and specific duties	Business as a whole	Yes	Day	Yes	Old	Efficient Service	Yes	Company	-	-	-	-	-	-	-	10	
III	7	General and specific training	Continuation school	No.	Day	No.	Varies	None	Yes	Company	X	-	-	-	X	X	-	14	
	8	General and specific training	Continuation school	No.	Evening	No.	Any Employee	None	No.	Student's or 1/2 and 1/2	X	X	-	-	-	-	X	19	
	9	General and specific training	Correspondence Continuation school	No.	...	No.	Employee	None	No.	Student's	-	-	-	-	-	-	X	5	
V	10	General and specific training	Public Cooperative school	No.	Day and Evening	Part	Any Employee	None	1/2 Time	1/2 and 1/4	X	-	-	X	X	-	-	18	

All Member Companies maintaining special training schools.....02

APPENDIX No. 2

SPECIAL TRAINING SCHOOLS.

COMPANIES MAINTAINING VARIOUS TYPES OF SCHOOLS.

(Does not include trades apprentice courses, office work schools, or schools to teach salesmanship)

TYPE I—COMPANY BUSINESS—STUDY COURSE

Students full time non-productive

Students paid while studying

COMPANY	EMPLOYEES	TAUGHT	DUTIES
Addressograph Company.....	N	W	Salesmen
American Steel and Wire.....	O	W	Salesmen and executives
American Telephone and Tele- graph.....	O	S	Instructors of operators
American Telephone and Tele- graph.....	N	S	Operators
American Telephone and Tele- graph (College grads.).....	N	W	Engineering department
The Atlantic Refining.....	N	W	Salesmen
Bell Telephone of Pennsylvania...	N	S	Operators
Chicago Telephone.....	N	S	Operators
Chicago Telephone.....	O	S	Plant maintenance
Carnegie Steel.....	O	W	Salesmen
B. F. Goodrich.....	N & O	S & W	Salesmen and store mgrs.
Mountain States Telephone and Telegraph.....	N	S	Operators
Pennsylvania Railroad (Bedford, Pa.).....	N	S	Telegraph operators (small monthly tuition charged)
Southern Bell Telephone and Tele- graph.....	N (Coll. men)	W	Engineers
Cumberland Telephone and- Telegraph.....	N & O	W	Administrators
Southwestern Telephone and Tele- graph.....	N	S	Operators
Standard Oil of New York.....	N (Coll. grad.)	S & W	Foreign service
United Cigar Stores.....	N	S	Clerks

Plan 1 (new employees—N) (W—Business as whole)

Plan 2 (old employees—O) (S—Specific duties)

TYPE II—COMPANY BUSINESS—STUDY AND PRACTICE COURSE

Students partly productive during training

Work part time—study part time

COMPANY	EMPLOYEES	TAUGHT	DUTIES
American Locomotive.....	N & O	W	For clerks handling mechanical matters.
Burroughs Adding Machine.....	O	S	Instructors on Burroughs machines
Commonwealth Edison.....	N (Tech. grads.)	W	Commercial departments
Carnegie Steel.....	N (Tech. grads.)	W	
General Electric.....	O	S	Extension Courses
Goodyear Tire and Rubber.....	O	W	Engineering and selling
Goodyear Tire and Rubber.....	O (Selected)	S & W	Foremen
New England Telephone and Tele- graph.....	O	S	Flying squadron (skilled operators)
Southern Pacific.....	O (Selected)	W	Plant maintenance
Southern Pacific.....	O & N	S	Executives
Southern Pacific.....	O	S	Station work
Southern Bell Telephone and Tele- graph.....	O	S	Chefs and waiters
Swift & Company.....	O	S	Plant maintenance
Westinghouse Electric and Mfg....	N (coll. grads.)	W	Transportation dept.
Westinghouse Electric and Mfg....	O (selected)	S	Engineering
Western Union Telegraph.....	N	S	Manufacturing and com- mercial departments
Western Electric Co.....	N (coll. grads.)	W	Operators
Western Electric Co.....	O (selected)	W	Engineering, manufactur- ing and commercial
Western Electric Co.....	N	S	Departments
Winchester Arms.....	N (coll. grads.)	W	Draftsmen
Yale & Towne Manufacturing....	O	W	Manufacturing and Com'l Salesmen

Plan 3 (new employees—N) (W—business as whole)

Plan 4 (old employees—O) (S—specific duties)

TYPE III—COMPANY BUSINESS—WORK COURSE

Varied work—full productive time—no study of company time.

COMPANY	EMPLOYEES	TAUGHT	DUTIES
Addressograph	O	W	Branch managers
American Optical	N	W	Office and road work
Atchison, Topeka & Santa Fe R.R.	O	W	Mechanical department
Cadillac Motor	N (coll. grads.)	W	Manufacturing
Consolidated Gas and Electric	N	W & S	Commercial and operating
Light and Power of Baltimore	O	S	Efficiency engineers
R. R. Donnelly & Sons	N (tech. grads.)	W	Engineering, manufactur-
Fore River Shipbuilding			ing and commercial
H. L. Doherty	N (tech. grads.)	W	Public utility
Goodyear Tire and Rubber	O	S	foremen and inspectors
Graton & Knight	O	W	Sales work
J. L. Hudson	O	S	Department buyers and
			executives
International Harvester	Adult-males	—	Technical
Kops Bros	N	S	Machine operators
Montgomery Ward	N (coll. grads.)	W	Commercial
Norton & Norton Grinding	N	S	Machine operators
Norton & Norton Grinding	N	S	All around machinists
Norton & Norton Grinding	N	W	Salesmen
Norton & Norton Grinding	N	W	Office men
Otis Elevator	N	W	Manufacturing
Packard	N	W	Manufacturing
Pennsylvania R.R.	O	W	Operating departments
Prudential Insurance	O	W	Clerks
Southern Pacific	O	S	Train service
Westinghouse Machine Co.	N (coll. grads.)	W	Manufacturing
Willys-Overland	O	S	Service and repairmen
Western Electric	N	S	Machine operators

Plan 5 (new employees—N) (W—business as whole)

Plan 6 (old employees—O) (S—specific duties)

TYPE IV—COMPANY CONTINUATION SCHOOL

General and special education
Aid employees to fit themselves for advancement—"learn while earning"

COMPANY	EMPLOYEES	TAUGHT	DAY, EVENING OR CORRESPONDENCE
American Bridge.....	Any	G	Evening
American Bridge.....	Any	S-Bridge building	Evening
American Tobacco.....	Any	S	Correspondence
Bing & Bing.....	Any	G-mechanical	Evening
Chicago Telephone.....	Any	S-Plant Maintenance	Correspondence
Commonwealth Edison.....	Any	G & S	Day
Commonwealth Steel.....	Under 22 yrs.	G	Day
Curtis Publishing.....	Any	G-Typewriting, English, mathematics, commercial geography	Day and evening
Fore River Shipbuilding.....		S	Evening
General Electric.....	Office	G-English (compulsory to conform to literacy law)	Evening
B. F. Goodrich.....	Any	S-Accounting	Reading courses
Goodyear Tire and Rubber.....	Foremen and inspectors	G	Day and evening
International Harvester.....	Boys 16-21 yrs.	G-Arithmetic	Day
Illinois Steel.....	Any	English, drafting shop practice	Evening
Kops Bros.....	Any	G	Day
Metropolitan Life Insurance.....	Any	S-Principles of life insurance	Correspondence
Mountain States Telephone and Telegraph.....	Any	S-Actuarial service	Evening
Newport News Shipbuilding and Dry Dock.....	Any	G-Stenography	Evening
New York Edison.....	Any	G-Elec. and mfg. telephone pract.	Correspondence
New York Edison.....	Any	General and mechanical drawing	Evening
New York Edison.....	Any	S-15 subjects complete	Day and evening
New York Edison.....	Any	G-6 subjects	Evening
New York Edison.....	Any	S-Technical	Evening
Norton & Norton Grinding.....	Machinists	S-Accounting	Evening
Public Service Corp. of New Jersey.....	Any	S	Day or evening
Prudential Insurance.....	Any	G	Day
Cumberland Telephone and Telegraph.....	Any	S-Telephone prac.	Evening (optional)
South Bell Telephone and Telegraph.....	Any	S-Accounting	Day (compulsory)
Simons Manufacturing.....	Any	G	Day
Standard Oil Co. of N. Y.....	Any	S	Day
Swift & Co.....	Office boys 14-16 yrs.	G	Day (compulsory)
Tide Water Oil.....	Clerks	S-Accounting	Day (Saturdays afternoons)
Westinghouse Air Brake.....	Office boys	G	Day
Western Electric.....	Any	G	Evening
Winchester Arms.....	Any	G-English for foreigners, mech. drawing	Evening
Yale & Towne Manufacturing.....	Any	G-Mech. drawing efficiency	Evening

Plan 7—Day classes (G—General subjects)
Plan 8—Evening classes (S—Specific subjects)
Plan 9—Correspondence

TYPE V—PUBLIC AND PRIVATE CONTINUATION SCHOOL—COOPERATIVE PLAN

Part time work—part time school "earn while learning"

COMPANY	IN COOPERATION WITH	EMPLOYEES
Brighton Mills.....	Passaic, N. J., High School.....	Operatives
Burroughs Adding Machine..	Cass Technical High School	
Chicago Telephone.....	Central Y. M. C. A.....	Office boys
Cincinnati Milling Machine..	Public Continuation School.....	Machinists
Consolidated Gas, Electric Light and Power.....	Baltimore Night School and Corre- spondence schools.....	Any
Consolidated Gas, Electric Light and Power.....	National Electric Light Assn.....	Departmental Groups
B. F. Goodrich.....	University of Akron.....	Engineering Department
National Cloak and Suit....	Board of Education, N. Y. City...	Clerical workers (female)
National Cash Register.....	Dayton High School.....	Machinists
National Cash Register.....	University of Cincinnati.....	Special apprentices
Simonds Manufacturing.....	Fitchburg, Mass. High School.....	Any
Swift & Co.....	Schools of Higher Accounting.....	Selected employees
Westinghouse Elec. & Mfg....	University of Pittsburgh.....	Special apprentices
Westinghouse Companies.....	Casino Technical Night School....	Any
Western Electric.....	University of Cincinnati.....	Distributing house
Western Union.....	Bushwick High School.....	Clerks
The Chicago Typothetae....	Stuyvesant High School, N. Y. C....	
Gas Companies.....	School of Printing.....	Printing apprentices
Central Station Companies..	National Gas Association (corre- spondence course).....	Any
N. Y. Department Stores....	National Electric Light Association (correspondence course).....	Any
	Department Stores Assn. (classes at various stores).....	Sales people

Plan 10—Public and private cooperative

PRESIDENT McLEOD: This report is now open for discussion. The discussions are to be limited to five minutes, so you do not have much time to wait. Somebody said discussion is like a double track railway—there is traffic in both directions, but there is a fairly definite route to be covered and the definite thing to be accomplished is the delivery of the freight. So I think we might bear that in mind so that we can move fairly definitely through the discussion we have here. Certainly, this subject is broad enough so that any one can speak on it.

MR. PAUL KREUZPOINTNER (The Pennsylvania Railroad Company): I find one paragraph in this report which deserves the particular attention of the members of this Association. This is the recommendation in favor of continuation schools. Continuation schools, all day and part time compulsory continuation schools, are better adapted to remedy or modify the shortcomings of the elementary schools and to supplement our common school system than any other form recommended or referred to in this report. The flexibility and adaptability of the continuation school are valuable features in meeting the varying conditions of industries and commerce and the class of pupils the school has to deal with. I say this not because I am a product of the Munich continuation schools, being obliged to attend them for five years, from 1856 to 1861, but because as a citizen of this country for the past fifty years I have had occasion not only to observe the development of our industries and their educational needs, but at the same time followed closely the development of our educational system, and because of being convinced of the necessity of an efficient system of continuation schools I take the liberty to call your attention to the value of these schools.

MR. MYRON J. JONES (The Sherwin-Williams Company): I rise to say, in addition to the continuation school, which I quite agree with the speaker is the most important single factor, perhaps, that we ought to lay hold of, as an auxiliary, that the vital thing in the report is the suggestion of an Educational Secretary and standardization, and I should like to ask, in behalf of our company, as a new member, how far you have gone in that direction? Is there any real movement within the existing management of things for that officer and for that plan?

PRESIDENT MCLEOD: The matter has been discussed at the meetings of our Executive Committee, and we agree with you that it would be a very good move and a move in the right direction. We have been held back because of lack of funds more than anything else. It is still a live issue with us, and we hope in the not too distant future to be able to furnish some assistance of that kind to the members.

MR. E. H. FISH (Norton Companies): I might state briefly our experience along that line in Worcester. We established a full-time trade school, teaching a trade thoroughly and frankly, and without glossing it over, and established a measure of success. That is, we got plenty of pupils, and made a good start. Some of our manufacturers were carried away with the Fitchburg plan and the Cincinnati Continuation School plan, and they asked us to try it, and we attempted it. We opened our doors for both schemes, a continuation school for four hours a week instruction, and the half-time plan alternating week by week. The local metal trades association attempted to help us by advertising very broadly and extensively, so that the matter would be brought to the attention of everybody interested, and yet as a result of that we got only a very few applications. I think on the half-time plan we secured a total of nine applicants, and the largest number of pupils who ever came was seven, three and one-half pairs, and that in a city of one hundred and sixty thousand inhabitants. The work was carried on even in spite of this small number, and is still offered, but the number has dwindled; it never went over nine, and it is down now to what will probably be the minimum—zero.

We started a continuation school with fifty-eight pupils sent to us by the different shops of the city. We maintained this probably for six months, and then we ran into a serious industrial depression, the result of which was that many boys were laid off, or completely discharged from the works, and the number dwindled to something like ten or twelve. Then we struck this wave of prosperity, in which the manufacturers could not see how they could possibly spare the boys from the shops, even during the four hours the school was in session. The consequence is that the number has remained at only nine or ten in the school. I am making this statement from reports handed to me, as I have not been connected with the school for two years, so

if there was any personal prejudice on my part against it, it has had ample time to recover from it.

DR. HENRY C. METCALF: On page 106 of the report, the first paragraph, particularly the first sentence of the second paragraph, interests me, and I would like to ask Mr. Dietz a question. It is stated: "Recent years have observed a very great development of a broader outlook and a more humanitarian attitude on the part of the management of business concerns toward their employees." That interests me exceedingly. We have heard from Chancellor McCormick as to, it seems to me, the true significance of that problem, or the importance of that scheme. I would like to ask if the Committee found a marked tendency on the part of so-called welfare secretaries and educational directors to co-operate effectively, so as to bring about what I am so much interested in, namely, the organic conception of all of this work in the industrial plan of education?

MR. J. W. DIETZ: One of the direct evidences we found was the relation of the activities which the employees themselves were carrying on in their evening school work through the organization of their own educational committees, and having supervision and co-operation in conjunction with the employer in the carrying on of what might be termed such welfare work, and it was that type of continuation school that we really wanted to bear on most heavily in our report, the corporation continuation school as opposed to the public school continuation school, and that, we feel, offers a tremendous opportunity as a point of contact between the employer and the employee. Does that answer your question?

DR. HENRY C. METCALF: What I want to know is whether those who are responsible for the so-called educational work and those responsible for the welfare work and the continuation school work co-operated? I am not quite clear whether or not the Committee makes a distinction between the so-called welfare work and the educational work.

It is also stated that: "The welfare secretary is coming to be one of the most important factors in great manufacturing plants, and he is doing more to bridge the gap between employers and employees than any other agency." It is further stated in the same paragraph: "The educational director and the welfare secretary go hand in hand, and together they are contributing to

greater industrial efficiency through a new emphasis on some other aims in education aside from the utilitarian." That is what I want to inquire about. Did you find that generally to be the case?

MR. J. W. DIETZ: Yes, we found that to be true quite generally.

MR. O. C. SHORT (Thomas Maddock's Sons Company, Trenton): We have a type of continuation school which might be termed a quasi-public school. It was started in September of last year with the apprentice boys. Upon an examination, we found the boys deficient in the fundamentals of education—arithmetic, writing, reading and spelling—and in the work which we planned to do in the corporation schools in the plant directly they were unable to measure up, and it was found that to teach these subjects in the corporation school would use up all our time and little headway would be made.

There has been in operation in Trenton a night school under the direction of the public school system for some years. We conceived the idea of trying to get the apprentice boys to attend the various night schools, either the public school, or the Business College, or the Y. M. C. A. The movement met with little success. We got perhaps three or four out of our apprentice boys enrolled in these institutions. Then we asked the Public School Board if they would send to us a teacher with supplies if we would get the boys to attend school in a room in the industrial establishment itself. They gave us an affirmative reply, so we opened a school in the plant, lighted and heated it, and furnished the boys, and the public school furnished the teacher, books and other supplies, and we have had one of the most successful night schools in the entire city during the past year. We also conducted a school for our foreign laborers on a similar plan.

MR. R. H. WRIGHT: Supplementing this new plan, I would like to say a few words as to the co-operative plan by which New York City is trying to interest various corporations in educating the apprentice properly. I was connected with R. Hoe & Co., of New York City. This year the city has supplied all of the teachers in the Apprentice School which R. Hoe & Co. is operating. It is the first year that this plan has been tried, and it is a little early yet to look for definite results. It gives the city,

however, a wonderful opportunity to find out how defective the boys' school training has been for going on with manual work and the allied subjects. The boys who come into that school are most deficient in arithmetic and English. Before we could go ahead with the school work, which would apply directly to the factory work, we had to spend at least a year in giving a review on the elementary work. This plan, however, has given the supervisors of the schools in New York City a very fine opportunity to observe this matter in actual operation, and it ought to lead to some better results. Although the city supplies the teachers, any changes in the curriculum can only be made in co-operation with the supervisor of apprentices in the school. It is really a co-operation between the city and the firm in the school, and not in the factory—they have let that alone—and they are finding out the preparation which is necessary—which the boy should have—in order to be able to go ahead with the work intelligently.

PRESIDENT MCLEOD: There is just about time, I think, for Mr. Dietz to make a closure of this debate. He just told me he wished to make a statement in reply to the discussion, and I will now give him that opportunity.

MR. J. W. DIETZ: I have not any back talk, but I do want to invite you to this round table discussion to-night, in which I think we can well look forward to place the emphasis on the company possibilities contained in this report, rather than on the public education side, not that that is not important, not that it is not vital, but I think many of the companies are looking forward to inaugurating better plans for developing selected employees to assume positions of greater responsibility, to have a broader outlook of the business as a whole, and a better and more definite supervision in their educational work for the high grade non-commissioned officers in industry and the possibility of developing them into executives. We are going to try this evening to pound rather hard on these things.

I heard our Executive Secretary, in making his report, point with pride to the fact that the combined capitalization of the members of the Association was about \$3,000,000,000. I hope that out of the \$3,000,000,000 of capitalization we can finance this educational secretary for the Association.

PRESIDENT MCLEOD: If there is no further business to come before this session, we will stand adjourned until two o'clock.

COMMITTEE ON TRADE APPRENTICESHIP SCHOOLS

MR. J. W. L. HALE, *Chairman*
MASSACHUSETTS BOARD OF EDUCATION
Boston, Mass.

MR. W. L. CHANDLER
DODGE MANUFACTURING COMPANY
Mishawaka, Ind.

MR. J. M. LARKIN
FORE RIVER SHIPBUILDING CORPORATION
Quincy, Mass.

MR. F. W. THOMAS
ATCHISON, TOPEKA & SANTA FE RAILWAY
Topeka, Kansas

MR. PAUL V. FARNSWORTH
CADILLAC MOTOR CAR COMPANY
Detroit, Michigan

MR. THOMAS G. GRAY
SOUTHERN PACIFIC COMPANY
Sacramento, California

TUESDAY—AFTERNOON SESSION.

TRADE APPRENTICESHIP SCHOOLS

TUESDAY AFTERNOON—MAY 30TH, 1916

VICE-PRESIDENT HERBERT J. TILY, *Presiding*

THE CHAIRMAN: We will now have the report of the Committee on Trade Apprenticeship Schools, which will be presented by the Chairman of the Committee, Mr. J. W. L. Hale.

MR. J. W. L. HALE: Mr. Chairman and Delegates, from the first convention held by this Association to the present time the desirability of having considerable report discussion has been apparent. Therefore, I shall merely give a résumé of the report of this Committee and leave the rest for you to supply. I take this opportunity to thank the members of the Committee and of the Association for what assistance they have provided in the preparation of this report.

In addition to instructions to investigate specifically the subject of Mathematics and English, there were certain questions suggested for consideration and investigation. These questions are enumerated on page four. The Committee received some interesting statements in reply to a questionnaire sent out on these subjects. I think it is unnecessary to go further in telling you what is contained in the report—advance copies have already been circulated among you, and I believe the time can be best spent by going directly into the discussion. I remember very well at our convention in Philadelphia this particular Committee met in session at four different times. Even then I believe there was some desire for further discussion.

I can see before me many delegates who, I am sure, are quite anxious and capable of discussing these subjects, having had considerable experience. Last year at Worcester, I gave considerable thought to the discussion of this subject. I was on the program, and after I had made a few remarks, one of the delegates referred to my statements in a rather humorous way. I am going to even up with this gentleman by asking him to start this discussion. I hope you will attack this report and criticize it severely, as I think we can get a great deal out of it if you pull it apart, and have a frank discussion.

REPORT OF COMMITTEE ON TRADE APPRENTICESHIP SCHOOLS

GENTLEMEN:

The instructions of the Executive Committee to the Committee on Trade Apprenticeship Schools for the year 1915-1916 are as follows:

"It is recommended that the Committee on Trade Apprenticeship Schools take the information contained in the last report of this Committee together with such other data as is required and study the subjects of mathematics (including shop arithmetic, algebra, etc.) and English, basing the study upon the schools and carrying the recommendations to the point of shop divergence required by the individual shop practice, making specific recommendations on the syllabi, division of hours of work and training, textbooks, etc."

On the above instructions the reaction of this committee, as represented in detail in the "Proposed Outline of Work" presented to and accepted by the Executive Committee, is as follows:

"Following these instructions it is proposed that the Committee investigate specifically the subjects of Mathematics and English and make specific recommendations which can be put to immediate use by those desiring to start schools and at the same time be profitable in the way of guidance for those who have already established school instruction. As this Committee has three members representing railroads and three representing manufacturing concerns, it is proposed by the chairman to have half the Committee work on the presentation from the transportation side and the other three from the manufacturing side. Since it is manifestly the desire of the Executive Committee and the supporters of the Association to develop something very tangible and immediately useful which will not only hold interest but secure additional support in our movement, it is suggested that it might be well to approach the subject as follows:

Example: To assume, first, a manufacturing concern and secondly, a railroad which wishes to establish a trade apprenticeship school with very little data or experience available. On this assumption, to arrange material in such shape that these corporations may make immediate use of it in their school organization.

Or, to assume a manufacturing and a railroad corporation each already having schools established. To so arrange material, bringing out results of past experience and practices as to enable such corporations to more efficiently and economically operate their school or system of schools.

It is the thought from the above that it might be well to include certain well tried out details for efficient guidance in addition to those specifically on Mathematics and English. The following questions have also been suggested for investigation.

1. What special school-room methods have been used to develop the following mental traits in apprentices; ability to reason, originality, resourcefulness, stability, common sense?
2. How can home study be encouraged?
3. How develop self-confidence in handling machines?
4. What means are being used to hold apprentices after graduation?
5. How can practical men be trained in the art of teaching?

In addition, it is thought desirable to extend and keep up to date, the maps prepared last year by this Committee, showing the geographical location of trade apprenticeship schools of transportation and manufacturing corporations.

This Committee has therefore attempted to formulate material for specific recommendations on the subjects of Mathematics and English, with the thought of its immediate usefulness to corporations wishing to establish schools, and for the assistance of those already conducting schools.

The sources of data for this report have been: the Proceedings of former conventions of the Association, questionnaires sent out by the Committee and returned by the members of the Association and of the Committee, and the personal experiences and investigations of the members of the Association.

INTRODUCTION.

The following presentation is made for both transportation and manufacturing corporations.

An attempt has been made to standardize the requirements as far as possible. It should be remembered, however, that our corporation schools adapt their courses to the requirements and conditions of the students or apprentices, and do not successfully adapt the students or apprentices to a cut and dried course.

Even with carefully selected and well formulated entrance requirements, there is usually a wide variety of ability, adaptability, and need among those received in the corporation school.

A representative class contains, perhaps, a future executive, several future foremen or sub-foremen, a number of able all-around mechanics to be, a number of future half-rate mechanics who will be content to run one machine for the rest of their lives, and a few undesirables, who, in the gravitating progress of the work are well eliminated and diverted into other forms of employment.

It is therefore to be understood at the outset that the conditions require a flexibility and adaptability to individual needs.

There is also a difference in the degree of attainment for different individuals of the school. The average apprentice should complete in a four year's course the ordinary mathematical requirements of the trade in question, while those of higher ability may absorb more mathematics and science in a more conventional way, these subjects being, however, confined to the things useful in the particular shop or course pursued by the student.

The corporation school course enables thought rather accurately along definite lines, and, at the same time, provides for the more able students a sufficient training to enable rational thought along more general lines.

An able machinist is likely to require principles not only of arithmetic, but also of algebra, geometry, and elementary science. He is best taught these as they arise in the requirements of his trade, and not as presented in a formal manner, that is, arranged according to mathematical logic.

Some of the most successful work is done without the use

of text-books and in line with the requirements of the particular daily work of the student.

If an instructor finds difficulty in giving a concrete example of a particular mathematical problem, he should leave it and turn to the right road of progression from the particular shop problem to the mathematical or physical principle of it. Experience goes to show, therefore, that the procedure should be, not from the abstract to the concrete, but vice versa, with as much visualization as possible throughout. The "hand minded," while they do not respond to abstract reasoning, may be quick in assimilating through their own senses.

It should be understood that in the courses of corporation schools as now conducted, some students may finish only half of the work of the brightest students and still have done thoroughly conscientious work within the limits of their ability and graduate as desirable journeymen.

For schools falling within the classification of this report, the school and shop training are but two branches of one training—to produce primarily all-around skilled mechanics. As has been characteristically stated "The closer the grease of the shop is literally rubbed into the lesson sheets, the better does the school execute its function."

The following outline is arranged for the several trades and not for any particular machine or operation. In this outline is given a summary of the problems and processes requiring mathematical and related physical principles.

All corporations which have their apprentice work properly organized have well arranged and well supervised schedules to provide the proper experience for the apprentice on the several standard machines and in the several processes required in his trade.

OUTLINE OF SUBJECTS AND PROBLEMS REQUIRED IN THE SEVERAL TRADES.

PROBLEMS FOR MACHINISTS.

1. Measurements

Involving use of ordinary scale.

Involving micrometers.

2. Mensuration of Surfaces.
3. Mensuration of Solids.
4. Weights of Solids.
5. Screw Cutting.
 - U. S. Standard.
 - Square.
 - Acme.
 - Worm.
 - Multiple.
 - Double.
 - Triple.
 - Quadruple.
6. Tapers.
7. Cutting Speeds.
 - Drill press.
 - Planer.
 - Shaper.
 - Boring mill.
 - Milling machine.
 - Index head.
8. Grinding.
 - Tools.
 - Manufactured parts.
 - Cylindrical.
 - Internal.
 - Surface.
9. Mechanics.
 - Levers and applications.
 - Pulleys, blocks and tackles.
 - Screw-jack.
10. Simple electrical calculations.
 - Ohm's Law (simplified).
 - Power required for different motors.
11. Calculation of Horse Power of Engines.
12. Estimating Cost of Material.
13. Estimating Cost of Work.
 - Problems involving selection of change gears on lathe, for screw cutting, both for simple and compound gearing.
 - Problems involving tapers,—both the ascertaining of the taper of turned pieces as well as the setting over of the

tailstock to obtain a given taper on a piece of given length.

Figuring relative speeds of belt connected pulleys.

Figuring length of belting for pulleys of given size and given center-to-center distance of shafts.

Figuring cutting speeds and feeds.

Estimating time consumed in doing work.

Estimating amount and weight of material from figures taken from blue prints.

Estimating cost of doing various kinds of work.

Estimating power transmitted by belting.

Estimating necessary size of belting and pulleys for given work.

14. Shrinkage of Metals.

Shrink fits.

Press fits.

15. Strength of Metals, in Tension and Shear.

16. Gears—Spur and Bevel.

Pitch (circumferential).

Pitch diameter.

Height, depth, thickness of teeth.

Gear cutters.

Indexing.

17. Study of Angles.

Simple trigonometric functions and application to jigs and fixtures.

Problems involving the calculation of the cutting speeds of lathe and boring mill tools.

Problems involving the safe peripheral speeds of pulleys, grinders, etc.

PROBLEMS FOR BOILERMAKERS.

Elementary measurements.

Common scale, 1-16", 1-32", 1-64".

Micrometer.

Area of surfaces.

Plain, cylindrical, curved, conical.

Heating surfaces.

Superheating surfaces.

Volumes.

Solids.

Rectangular tanks, etc.

Cylindrical tanks, etc.

Weights of solids.

Plain.

Cylindrical.

Pressures on surfaces in boilers.

Loads on staybolts.

Loads on braces.

Strength of staybolts.

Strength of braces.

Strength of boiler plates.

Safety loads on boiler plates.

Expansion of metals.

Collapsing load on tubes.

Problems involving capacity of various shapes of tanks.

Problems involving proper thickness of sheets for boiler of given diameter and pressure.

Figuring efficiency of riveted joints.

Figuring proper size of bracing in boilers.

Figuring proper size and spacing of rivets for given thickness of sheet and given pressure.

Figuring heating surface and water capacity of boilers.

Problems involving expansion and contraction of metals.

Riveted joints.

Spacing of rivets.

Distance from edge.

Strength of riveted joints.

Efficiency of riveted joints.

Steam practice.

Boiler horse power.

Fuel.

Superheating.

Boiler testing.

Standard practice.

A. S. M. E. Code or I. C. C. Code.

Problems introducing the fundamentals of plate development.

Problems in ordering the material for boiler work.

PROBLEMS FOR CARBUILDERS.

- Fractions involving use of ordinary scale.
- Addition of dimensions involving feet, inches, and fractions of inches.
- Areas of surfaces.
 - Steel plates.
 - Roofing, etc.
 - Car siding, etc.
- Volumes.
 - Capacity of cars and tanks.
- Board measure.
- Estimating material.
- Belts and pulleys.
- Speeds of wood working machines.
- Riveting.
 - Spacing of rivets.
 - Strength of rivets.
 - Strength of riveted plates.
- Cutting speeds.
 - Axle lathes.
 - Wheel lathes.
 - Wheel boring mills.
- Questions on M. C. B. Rules.
 - Repairs.
 - Interchange.
 - Distribution of charges.

PROBLEMS FOR BLACKSMITHS.

- Measurements.
 - Fractions, $\frac{1}{8}$ ", and 32nds.
- Proportion.
- Areas of surfaces.
 - Plane and cylindrical.
- Volumes.
 - Rectangular and cylindrical.
 - Transformation of sections.
 - Changing square billets to other shapes.
- Weights of Solids.
- Estimating Material.

Expansion and Contraction of Metals.

Shrink fits.

Press fits.

Properties and manufacture of wrought iron and steel.

Problems showing how to select the proper sizes of material for forgings.

Problems showing how to determine the bending line in curved forgings.

Figuring weights of forgings from blue prints.

Figuring amount of stock, of one size and shape needed to draw out into a given length of another size and shape.

Figuring amount of metal to cut off for making bands and straps of different shapes.

Problems involving the Expansion and Contraction of Metals.

Estimating cost of work, both labor and material.

PROBLEMS FOR TINSMITHS

Fractions involving sixteenths and 32nds on ordinary scale.

Proportion.

Mixing solders.

Areas of surfaces.

Plane, cylindrical, etc.

Volumes of tanks, bins, etc.

Estimating material.

Laying out.

Geometrical figures.

Use of dividers, etc.

Problems in the development of surfaces.

Problems in making measures of paper to hold a given quantity.

PROBLEMS FOR PATTERNMAKERS.

Problems in the development of gear teeth.

Calculation of the shrinkage of castings.

Problems in broad measure.

PROBLEMS FOR CARPENTERS.

Problems in estimating the lumber required for houses and other structures.

Problems in laying out templates.

Problems involving the holding power and strength of wood, screws, nails, bolts, etc.

PROBLEMS FOR BRICKLAYERS.

Sketching and drawing special brick.

Problems in estimating number of brick required to build walls, etc.

Problems in laying out angles and bevels.

Problems in the construction of arches.

Problems on mixing of mortars and cements.

PROBLEMS FOR ROLL TURNERS.

Problems in laying out templates of roll passes.

Problems involving the layouts of rolling mills.

PROBLEMS FOR FOUNDRYMEN.

Problems involving the hydraulic pressure of molten metals.

Estimating quantities of sand and loam.

Estimating weights of castings.

PROBLEMS FOR PAINTERS.

Problems in finding the area of surfaces.

Stenciling and lettering.

Materials used in paints, oils, varnishes, etc.

Problems on mixing of paints.

PROBLEMS FOR TIN AND COPPER SMITHS.

Problems involving capacity of various shapes of tanks and vessels.

Estimating material to cover surfaces.

Estimating cost of work, both labor and material.

Figuring proportions for solder, and for soft metals of various kinds.

Problems involving relative sizes of pipes and rate of flow of water through them.

PROBLEMS FOR CABINETMAKERS.

Figuring board feet of lumber in timbers of various sizes.
 Making up bills of material from blue prints.
 Estimating sheathing and lining necessary for cars.
 Estimating cost of labor and material on work.

PROBLEMS FOR MOULDERS.

Estimating weight of castings from patterns.
 Figuring core lift on moulds.
 Figuring proper proportions for iron mixtures.

PROBLEMS FOR EACH TRADE.

Problems showing the relation and importance of the tradesmen to the product of the plant.

REQUIREMENTS IN ENGLISH.

The English taught in Trade Apprenticeship Schools is generally confined to what is called "Shop English," which means that it is confined to the English which is used in the trade nomenclature of the shop. The vehicles for this study are principally shop reports, the keeping of record and time cards, the reading and discussion in the class-room of interesting articles in standard trade publications, drills in spelling of the words used in the trade, and some of the more common words as well, and the assignments of outside reading of articles in trade magazines.

Some experienced apprenticeship instructors and supervisors question the advisability of giving very much time in the school to the study of English, in that the entrance requirements for apprenticeship presuppose a reasonably good knowledge of the fundamentals of English. The limited time which is available for corporation school work, it is thought can be more profitably spent if given to the mathematical, physical, and the drawing requirements of the trade. In this connection, there are included in this portion of the report a statement received from several instructors and supervisors of their personal views derived from considerable experience.

Report writing is best taught by requiring each student or

apprentice to write a brief composition on what he is doing in the shop, or, for example, what he did on a certain day. This composition can then be corrected by the instructor, not only for the principles in English composition, but also for the principle involved in the trade. The effectiveness of report writing depends on how thoroughly the instructor follows up the work and insists on interesting, accurate, and properly detailed statements on the subject of the report.

Practice in making out records and time cards is evidently especially desirable, anticipating the development of the apprentice for future positions of minor or higher responsibility in the shop's management. Evidently a considerable amount of material is available for practice in this subject.

The reading and discussion in the class-room of interesting articles in current trade publications not only increases the interest of the apprentice in his work and gives him a better insight into it, but also enables the instructor to obtain a better idea of the ability and interest of the apprentice. Every trade apprentice school should have easily available for the use of students and instructors a representative number of weekly and monthly trade magazines.

The exercise in spelling consists of a drill in the names of parts of machines, tools, and in words of the every-day shop language. A good training in this type of vocabulary is specially helpful in writing shop reports and in issuing intelligible instructions.

Outside reading is most successful when it is based on good literature that is modern and interesting. Manifestly, there should be little difficulty in securing material which will arouse and hold the interest of the apprentice, and give him not only an assistance in his daily work, but also, indirectly, an impetus for a better moral and civic being.

The following quotations are vital as testifying the experience of apprentice instructors regarding this subject.

"I very much doubt the advisability of going into the study of English with shop apprentices, beyond exercises in written and oral expression. Exercises in spelling the common mechanical words as well as exercises in writing should be given.

"Books pertaining to industrial and mechanical subjects might be well used as a basis for oral reading."

"Regarding instruction in English, we do not cover this subject, as we require all of our students to have at least a sixth grade education and they must speak English fluently."

"I do not think we should do anything with English or any other language. Our time for handling the boy in the school-room is so short and the other subjects are far more important. He needs the other subjects in his trade, and while no doubt a well grounded course in English is most desirable I believe that this should come in our public educational system rather than in our corporation schools. Compulsory education is getting pretty common nowadays, and as few of us can take the boys under sixteen years of age, they should have a pretty well grounded training in English, Composition, etc."

A liberal supply of trade and engineering handbooks should be available to apprentices or students and used as reference material in connection with their work in English, Mechanical or Freehand Drawing, and Mathematics.

The following questions have been suggested for investigation by this Committee:

What special school-room methods have been used to develop the following mental traits in apprentices: ability to reason, originality, resourcefulness, stability, common sense?

How can home study be encouraged?

How develop self-confidence in handling machines?

What means are being used to hold apprentices after graduation?

How can practical men be trained in the art of teaching?

The Committee has accordingly arranged the following opinions from questionnaires sent in by members of the Committee and the Association. These questions, it is felt, should furnish interesting material for discussion during the session of this Committee and at the round-table conferences.

1. What special school-room methods have been used to develop the following mental traits in apprentices: ability to reason, originality, resourcefulness, stability, common sense?

"Our course of drawing, course of mathematics, and applied mechanics were gotten up by us with the intention of developing all these traits in the apprentices, each boy working by himself and is a class unto himself, receiving individual instruction. If we find him weak in one of the qualities mentioned the instructor

gives him additional work to develop that particular trait. In addition to this our School Instructors work so closely with the Shop Instructors that a great deal of practical work bearing on the study he is pursuing in school, the two working together arouse more than ordinary interest in the particular subject and in a majority of cases the boy will exert himself along that particular line feeling a keener interest in the subject. As to the trait of common sense, this cannot be developed; it is God-given. While we may improve the boy along other lines we cannot add to the amount of common or horse sense he has. Through constant drilling on the subject we may make him an adept on some subject, but if he is lacking in common sense he cannot be depended upon to do the right thing under ordinary conditions."

"We have a special class of about 20 of our best students, in which we take up the following subjects: Biography of leading men, Care of the body, Every-day ethics, Memory culture, Leadership requisites, Principles of success, Debates, Principles of efficiency, Efficiency and its application, Fitting the man to his job, Applied Psychology, Character building, Salesmanship, Public Speaking, and Discussions."

"What special school-room methods have been used to develop the following mental traits in apprentices; ability to reason, originality, resourcefulness, stability, common sense, would state that it is very hard to get blood out of a stone and about the only thing we could offer is to cut out all fixed text-books and have the instructions given in a lecture proposition. This not only creates enthusiasm, but educates them to the point of reception by the ear as they soon feel that they are obliged to get it this way or not at all. It also keeps them enthusiastic, for they do not know what is coming next and cannot feel that they can get it out of the text-books any old time. As for the originality, this is a problem that education will probably help but little.

Resourcefulness could be covered by the former enthusiastic proposition.

Stability, is simply steadying the enthusiasm, and common-sense comes from education and stability."

"Methods used to develop such mental traits as mentioned in this question cannot very well be specifically answered. While we endeavor to develop these traits in our boys they come as a natural event in the training without any specific course being

adopted to bring about those results. The little practical problems we give him pertaining to the practical work in the shop tend to develop his reasoning faculties. The free hand sketching and special jobs we may give him both in the shop and school tend to develop his originality and resourcefulness. His advancement from one step of his apprenticeship to another is generally based on his thoroughness and stability. In other words, he knows that he must thoroughly master the subject before he will advance to the next one. This tends to make him accurate in his work, for by so doing he feels he will get an advancement and change in work. As to the last subject of this question, 'Common Sense,' common sense cannot be developed. It is born in a man. We can develop nearly any other characteristic, strengthen his muscles, improve his memory, broaden his mind, but we cannot do anything to add more common sense."

"I know no better way to develop reasoning power than by having apprentices work a great many problems in mathematics.

The traits of originality, resourcefulness and common sense may be developed in some degree, at least, as the apprentice becomes more educated and learns to see the correlation between the instruction he receives and the practical requirements of his work.

Stability can be developed by requiring apprentices to complete work that they have started and not to allow them to fly from one thing to another in their study work, without finishing anything."

"The teachers of the Apprentice Class try to awaken their students' ability to reason by avoiding, as far as possible, the use of rules and definitions which cannot be derived logically within the range of the students' comprehension. Their originality and resourcefulness are developed by requiring them to bring original problems to the classes, and then having these problems, such as are suitable, solved by other members of the classes.

The value of stability and common sense is, in our opinion, understood and appreciated when a pupil has learned to reason."

"Ability to reason may be developed by the solution of problems requiring considerable thinking. Examples should be explained in such a way that steps are arranged in a logical order. It should be borne in mind that all instruction should proceed from the known to the *'related unknown.'*

It is a good idea to have problems worked out in statement form so that each step is indicated and labeled. Originality may be developed by encouraging the design of new shop devices such as jigs, fixtures, and even new tools. A study of all the latest devices used by the employing company as well as those presented in trade journals will often stimulate a desire to develop new devices.

Resourcefulness may be developed by a close study and discussion of all practical details for the trade in question and by making the best use of everything at hand. Stability and common sense may be developed by a close personal contact between student and instructor. The success of any instruction system depends to a large extent upon the personality of the instructor."

2. How can home study be encouraged?

"We do not encourage this. In fact, we discourage the practice, preferring that the boy devote his evenings to some recreation and pleasure. It will make him much more comfortable and happy during his apprenticeship. After a boy has worked ten hours in one of our modern shops he is not in a frame of mind to do much studying in the evening. To keep them contented and happy they should have some hours for recreation."

"We require the boys doing home studying by putting up a monthly standing chart based on the amount of work the boy turns in. If he falls below a given standard a certain number of times, he is subject to dismissal. (We do not have much trouble in inducing the boys to study nights.)"

"As you are probably well aware there is not much enthusiasm along this line as the apprentices, after working all day, need a little recreation evenings. We do give some home work, but it is very limited and what we do give is very unsatisfactory."

"We do not encourage home study as we do not want our apprentices to study at home. We believe after working all day in a modern shop they should have the evening for recreation and pleasure. We must remember that we are dealing with the average boy and the average boy must have some fun. If he does not he will leave this work to engage in something which will give him a little more recreation. We are doing our best and exerting every power within our means to give our boys the best time possible while serving their trade, teaching them that the trade

selected is the best and most profitable one which could have been selected. All our instruction in the school and shop is along that line."

"Home study can best be encouraged by enthusing apprentices with the thought of the value of the opportunity given them and of the value to themselves of accomplishing as much as possible, while they still have that opportunity."

"Home study has been encouraged in our classes by referring to books and magazines where further information can be obtained on a subject under discussion and by lending books and drawing boards to students. The probable rewards of home study are also discussed frequently."

"Home study may be encouraged by making the work exceedingly interesting so that the pupils will have a desire to obtain all the information possible. Make the work as practical as possible and bearing directly on the future needs of the student. Have the pupil realize the importance of the work. Avoid compulsion if at all possible. Self-confidence can be developed by education. Proper instruction in the use of the machines so that every point is understood. The operator must know all about the machine and not have any doubts as to how the particular job in hand is to be done."

3. How develop self-confidence in handling machines?

"This is done, first, by the Shop Instructor explaining each part of the machine to the boy and the function of each part, showing him how the piece of work should be placed in the machine, how the cutting tool should be ground and set, and at what speed, etc., the machine should be operated. He stays with the boy until he feels that he is sufficiently drilled in running all the different parts, and how to operate the machine safely. *Here is the great value of Shop Instructors.* The boy in the very beginning is reassured and made to feel safe and at home and not allowed to flounder along finding out by experimenting or depending on some of his neighbors telling him."

"By preliminary instruction in our training room by a special instructor, before transferring him into the factory. (This is very beneficial.)"

"This comes by practice, good instructions and the natural ability to concur."

"When a boy enters our shop the Shop Instructor immediately

takes him in hand and thoroughly explains to him every part of the machine he is set to run. He is taught in what position to stand while working at the machine in order to avoid any possible injury, and what position he must be in when handling belts in order to avoid his fingers being mashed or otherwise injured. He is taught what part of the machines should not be touched while in motion. In other words he is shown what is dangerous and what he should avoid. He is also shown with what ease and comfort a machine can be operated."

"Self-confidence in handling machines can best be developed by giving apprentices difficult work, instructing them as to the proper way of doing it and then requiring them to do it alone."

"In order to hold apprentices after graduation and to serve as an incentive to all and a reward to the especially studious and proficient it is highly desirable to place apprentices showing exceptional ability in positions of minor responsibility as soon as conditions warrant. All officials must take a personal interest in graduate apprentices and give them preference in filling positions."

4. What means are being used to hold apprentices after graduation?

a. By giving him journeyman rates of pay.

b. By paying him a stipulated bonus after graduation and a stipulated amount six months after graduation provided he remains in service.

c. Showing him that promotions are coming from the ranks of those already in service, that official positions will be given to those who have completed their apprenticeship with the company or who have been in service long years."

"Ordinary business principles."

"There are only two ways to hold apprentices after graduation: First, by paying them the market price, or what they are worth. Second, by treating them so that they feel contented to stay with the Company."

"a. In the first place this company in its agreement stipulates to the apprentice that after completing its apprenticeship an additional sum of \$75.00 will be paid him should he remain in the service six months after completing his apprenticeship.

b. Then we have shown our apprentices that the men are treated better on this road than on any other railroad in this section of the country.

c. They are taught that all promotions in the future will come from the men already in the service of the company, and before a man can be promoted to a foremanship he must pass an examination, and as our apprentices are taught these subjects while serving their apprenticeship they are equipped and in a position to stand a better examination than those who have not served their apprenticeship with us."

"We have not felt the need of adopting any special means of holding apprentices after graduation because a very large per cent of them stay in the service."

"Have not had any graduate from full course yet."

"The training of practical men as instructors is often a difficult matter. They may be excellent mechanics but lack the ability to impart their knowledge to others. The best way is to select the proper kind of man who will get along well with his pupils, one who has had good school training and knows the subject taught. By having periodic meetings of instructors and having discussions in regard to what is being done and to compare notes will assist in breaking in new instructors."

5. How can practical men be trained in the art of teaching?

"Practical men are the only ones who can teach. From our list of graduate apprentices we spot those we think possess the qualifications to teach, young men of good personal appearance, full of energy and ambition, and who have the faculty of imparting their information to others intelligently. These men are selected from different points, are brought to the head office and made Assistant Instructors where they will be under the immediate eye of the Supervisor of Apprentices. Here they work as Assistants to our Senior Instructor."

"Unless the man has the natural ability in the line of teaching, we do not believe this is possible."

"This is done by our Company. First getting rather a young man of good habits and one who has a personal liking for boys, after which it is necessary to educate him along similar lines that you do the apprentices."

"All of our instructors are recruited from our graduate apprentices. While serving an apprenticeship when an apprentice

shows the qualification or ability to impart information to others in a thorough and understanding manner he is deputized at times to instruct other apprentices and finally in the absence of the Instructor he takes charge of the school-room work or in a similar manner with the shop work. And as needed, these men are brought to headquarters and placed under the Supervisor of Apprentices where they are kept until a vacancy arises, and then one is given the appointment, and another one brought in to fill his place. And of the 44 Apprentice Instructors on this system the majority have served their apprenticeship on this road, and are thoroughly familiar with the system."

"It should be arranged for corporation apprentice instructors to take University Summer Courses calculated to train them in the art of teaching. In many cases this could be easily accomplished as the apprentice schools are closed during the summer.

Very generally railroad apprentice instructors are practical railroad men taken from the service, and they would doubtless be greatly benefited in handling their work if they were trained as teachers."

"By practice under the direction of an experienced teacher."

In addition to the above material, it has been thought well to extend and keep up to date the maps prepared last year by this Committee and showing the geographical location of trade apprenticeship schools of transportation and manufacturing corporations. It is interesting to note a healthy and significant growth in the number and extent of these schools throughout the United States. It is felt that these maps should be especially valuable in assisting members of the Association in arranging itineraries to visit such schools and to secure information best obtained by visiting schools while in actual operation.

TABLE OF SOME OF THE DETAILED MATHEMATICAL REQUIREMENTS OF MECHANICAL TRADE PROCESSES.

For facility in arrangement the Mathematical subject is recorded first. The entrance requirements for students is generally not below that of the sixth grade, hence a knowledge of the simple processes of whole numbers is assumed here.

<i>Subject.</i>	<i>Divisions of subject.</i>	<i>Requirement or Application.</i>
Common Fractions.	Reducing to lower terms. Lowest common denominator. Add., Subt., Mult., Div. Mixed numbers.	Reading working drawings. (Ordering stock. (Laying out job. (Other mechanical requirements. Template work. Wages and cost of material and labor. Use of simple tables. Calculation of speeds and feeds.
Decimals.	Addition and Subtraction. Reducing to fractions. Reducing fractions to decimals. Mult. and Division.	Micrometer and vernier calipers. Wages, time, material and labor. Ordering stock. Laying out and setting up work. Calculation of speeds and feeds. Reading working drawings and blue prints.
Percentage.	Calculation of simple percentage, interest, amount and rate.	
Ratio and Proportion.	Simple and compound ratios.	Calculation of diameters, teeth and speed of gears. Calculation of diameters and speeds of pulleys. Change gears for screw cutting. Relative costs of material and labor. Proportions and material for solder and soft alloys. Cost of labor and piece work jobs. Speeds and feeds.
Measurement of Angles.	Definitions. Add., Subt., Mult. and Div.	Reading working drawings. Laying out and setting up work.
Use of Formulæ.	Use of Letters to represent general terms. Use and meaning of positive and negative numbers.	Shortened processes for all applications.

<i>Subject.</i>	<i>Divisions of subject.</i>	<i>Requirement or Application.</i>
Simple Equations.	Definitions. Transposition of terms.	Calculation of screw threads. Calculation of the simple machines. Ability to use rules for calculation of size, weight, cost, etc., and for processes involving the applications given above.
Rectangles.	Calculation of area, length and width of rectangles and squares.	Reading working drawings. Calculation of size, amount, and cost of material. Laying out and setting up work.
Square Root.		Calculation of size, amount and cost of material.
Right Angle Triangles.		Calculation of size, amount and cost of material.
Circles.	Calculation of diameter radius, circumference and area.	Calculation of cutting speeds and feeds. Surface speeds. Rectilinear speeds. Length of belts. Material required. Cost of material. Laying out and putting up work.
Simple Solids Rectangular Section.	Calculation of length, sectional area, volume weight.	Weight and cost of bar metal. Volume or capacity of rectangular and cylindrical tanks and cylinders.
Cylindrical.		Volume and weight of rough and finished parts. Capacity of pipes and flow of water. Capacity of pumps. Board and timber measure.
Use of tables and curves.	Facility of comparison by graphs. Ready calculation of data. References and records.	Rapid solution of problems of two variables involving applications of subjects above.
Cube Root.		Calculations of dimensions, size and cost of material. Calculation of cubical and spherical shaped objects.

<i>Subject.</i>	<i>Divisions of subject.</i>	<i>Requirement or Application.</i>
Miscellaneous Polygons.	Shortened rules for perimeters. Area of irregular polygons.	Perimeter, area, volume, weight and cost of material. Area and volume of standard sectional pieces.
Miscellaneous Solids.	The wedge. Sphere. Hexagonal and octagonal sectioned objects.	Size, weight and cost of ball bearings.
Miscellaneous rules for length, area and volume.	Area of irregular figures by division into triangles and rectangles. Area of sections and segment of circles. Arcs of circles. Volumes and areas of rings.	Area of irregular metal plates. Areas and volumes of counter-balances. Weight and cost of material. Areas and volumes of cast and forged parts.
Metric system.	Definitions. Comparison of Metric and English systems.	Use in calculations of all applications given above.

TEXT-BOOKS.

In the Report of the Committee on Trade Apprenticeship Schools to the Second Annual Convention is given a complete and comprehensive list of the text-books available in Mathematics, Mechanical Drawing, Mechanics and allied subjects, together with a list of books desirable for collateral reading.

In this Report the Committee has extended this list with such additional texts as have become available in the interim.

BOOKS ON MATHEMATICS.

<i>Name.</i>	<i>Author.</i>	<i>Publisher.</i>
Practical Mathematics	Claude I. Palmer	McGraw-Hill Co. (4 volumes)
Shop Mathematics—Part 1—Arithmetic	E. B. Norris and K. G. Smith	McGraw-Hill Co.
Machine Shop Primer	F. H. Colvin and F. A. Stanley	McGraw-Hill Co.
Machine Shop Calculations	F. H. Colvin	McGraw-Hill Co.

<i>Name.</i>	<i>Author.</i>	<i>Publisher.</i>
Advanced Shop Arithmetic	Norris and Craig	McGraw-Hill Co.
Applied Mathematics	H. E. Cobb	Ginn & Co.
Industrial Mathematics	H. W. Marsh	John Wiley & Sons
Shop Problems in Mathematics	Breckenridge-Mersereau-Moore	McGraw-Hill Co.
Shop Mathematics	Holton	Taylor-Holden Co. Springfield, Mass.
Technical Arithmetic and Geometry	Miller	Methuen Co.
Trigonometry with Tables	Phillips and Strong	American Book Co.
New School Algebra, No. 1	Wentworth	Ginn & Co.
Plane Spherical Trigonometry, Surveying and Tables, No. 1	Wentworth	Ginn & Co.
Strength of Materials	Mansfield Merriman	John Wiley & Sons
Industrial Mathematics	Norris and Smith	
Academic Arithmetic	Wells	D. C. Heath & Co., N. Y.
Essentials of Algebra	Wells	D. C. Heath & Co., N. Y.
New Plane and Solid Geometry	Wells	D. C. Heath & Co., N. Y.
New Plane and Spherical Trigonometry	Wells	D. C. Heath & Co., N. Y.
Analytic Geometry	Candy	D. C. Heath & Co., N. Y.
Differential and Integral Calculus	Osborne	D. C. Heath & Co., N. Y.
Metrical Geometry	Halstead	Ginn & Co.
Descriptive Geometry	Adams	A. D. MacLachan, Boston
Slide Rule	Faber	B. K. Elliott, Pittsburgh
Shop Mathematics for Machinists	R. W. Burnham	John Wiley & Sons
Practical Mathematics	C. R. Dooley and W. A. Johnson	
"Machinery's" Mechanical Series (pamphlets)		The Industrial Press, New York
Practical Applied Mathematics	J. W. L. Hale	McGraw Hill Book Co., New York
Mathematics for the Practical Engineer	Bromley and Cobleigh	McGraw Hill Book Co., New York
Vocational Algebra	Wentworth and Smith	Ginn & Co., Boston
Community Arithmetic	Hunt	American Book Co., Boston
Practical Mathematics	Cracknell	Longmans, Green & Co., New York

<i>Name.</i>	<i>Author.</i>	<i>Publisher.</i>
Practical Mathematics	McLachlan	Longmans, Green & Co., New York
A Course in Practical Mathematics	Saxelby	Longmans, Green & Co., New York
An Introduction to Practical Mathematics	Saxelby	Longmans, Green & Co., New York
Mathematics for Machinists	Burnham	John Wiley & Sons, N.Y.
Practical Shop Mathematics	Johnson	John Wiley & Sons, N.Y.
Arithmetic for Carpenters and Builders	Dale	John Wiley & Sons, N.Y.
Textbook of Mathematics	Marsh	John Wiley & Sons, N.Y.
Vocational Mathematics	Dooley	D. C. Heath & Co., N. Y.

BOOKS ON MECHANICAL DRAWING.

<i>Name.</i>	<i>Author.</i>	<i>Publisher</i>
Isometric Drawing	A. F. Jamison	McGraw-Hill Co.
Engineering Drawing	Thomas E. French	McGraw-Hill Co.
Reinhardt's Technic of Mechanical Drafting	C. W. Reinhardt	McGraw-Hill Co.
Machine Shop Drawings	F. H. Colvin	McGraw-Hill Co.
Sketches Used in Drawing Glass	A. W. Smith, Pratt Institute	
Mechanical Drawing	Anthony	D. C. Heath & Co.
The Essentials of Lettering	F. E. French	McGraw-Hill Co.
Mechanical Drawing	Machinery Reference Books	Industrial Press, N. Y.
Mechanical Drawing	Chas. C. Leeds	A. Van Nostrand Co., New York
Elementary Mechanical Drawing	Chas. W. Weick	McGraw-Hill Co.
Shop Sketching	Woolley and Meredith	McGraw-Hill Co.
Essentials of Lettering	French and Meiklejohn	McGraw-Hill Co.
Plain Lettering	Jacoby	
Elementary Machine Drawing and Design	Marshall	McGraw-Hill Co.
Applied Mechanical Drawing	Mathewson	The Taylor Holden Co., Springfield, Mass.
Notes for Mechanical Drawing	Mathewson and Stewart	The Taylor Holden Co.

<i>Name.</i>	<i>Author.</i>	<i>Publisher.</i>
Mechanical Drawing	Chas. B. Howe	John Wiley & Sons, N.Y.
Mechanical Drawing	Tracy	American Book Co., Boston
Industrial Drawing and Geometry	Spooner	Longmans, Green & Co., New York
Machine Drawing and Design for Beginners	Spooner	Longmans, Green & Co., New York
Technical Drawing Series	Anthony	D. C. Heath & Co., N. Y.

BOOKS ON MECHANICS.

<i>Name.</i>	<i>Author.</i>	<i>Publisher.</i>
Machine Shop Mechanics	F. H. Colvin	McGraw-Hill Co.
Modern Engineering Practice		American School of Correspondence
Treatise on Hydraulics, No. 1	Merriman	John Wiley & Sons
Physics, No. 1	Ganot	Wm. Wood & Co.
Elementary Applied Me- chanics	Morley and Inchley	John Wiley & Sons
Elementary Practical Mechanics	Jamison	Longmans, Green & Co.
Pumps and Hydraulics	Wm. Rogers	Theodore Audel & Co.
High School Physics	Cortons	D. Appleton & Co.
Mechanics of Materials	Merriman	John Wiley & Sons
Mechanics of Air Ma- chinery	Weisbach and Herman	D. Van Nostrand Co.
Machinery Handbook		Industrial Press
Handbook	Kent	John Wiley & Sons
Mechanical Engineering and Machine Shop Practice	Stanley K. Moore	McGraw-Hill Co.
Elementary Practical Mechanics	J. M. Jamison	John Wiley & Sons
Mechanical Reference and Data Books		Industrial Press
Machine Shop Practice (20 vol.) 1-B		Intern. Textbook Co.
American Machinist Handbook		McGraw-Hill Co.
Pattern Making	J. G. Horner	D. Appleton & Co., N. Y.
Modern Workshop Prac- tice	J. G. Winton	D. Appleton & Co., N. Y.
Lathe Work	P. N. Hasluck	D. Appleton & Co., N. Y.
Practical Metal Turning	J. G. Horner	D. Appleton & Co., N. Y.
Screw Threads	P. N. Hasluck	D. Appleton & Co., N. Y.

<i>Name.</i>	<i>Author.</i>	<i>Publisher</i>
Practical Mechanics and Allied Subjects	J. W. L. Hale	McGraw-Hill Book Co., New York
Forge Shop Practice	Littlefield	The Taylor Holden Co., Springfield, Mass.
Strength of Materials	Merriman	John Wiley & Sons
Elements of Mechanics	Merriman	John Wiley & Sons

DETAILS OF CORPORATION TRADE APPRENTICESHIP SCHOOLS—ORGANIZATION AND OPERATION.

For information on well-tried-out details of organization and operation of Trades Apprenticeship Schools, the membership is respectfully referred to the Report of this Committee to the Second Annual Convention. In this Report is given a rather comprehensive summary of statistics of both transportation and manufacturing corporations.

The following statement is made in addition by way of assistance to corporations wishing to establish Trades Apprenticeship Schools and for further guidance of those already having schools in operation. Generally speaking, corporation schools are most efficiently operated when they are conducted within the shops or manufacturing plant of the corporation and under its immediate control. Instructions should be given during regular working hours, with the apprentices or students under regular pay for the time spent in instruction. The average length of a trade course is four years, with an average amount of instruction of four hours per week, best given on non-consecutive days, and divided approximately equally between the subjects of Trade Mathematics, with the allied subjects of Mechanics and Shop Drawing.

The best practice prescribes both physical and mental entrance examinations for apprentices and a trial period in the trade, averaging six months.

The average first year rate for trades apprentices is approximately ten cents per hour, with a yearly, and in some cases semi-annual, increase of pay until in the fourth year a rate is reached which closely approximates that of the journeyman of the trade in question. Some companies have found it successful to pay a bonus to students or to apprentices at the completion of

their apprenticeship, and a further bonus after six months' or a year's service as journeyman. The desirability of a bonus is, however, not altogether well established. The minimum age of students entering apprenticeship averages seventeen years, and the average maximum age of those entering apprenticeship is twenty years.

Shop instructors and supervisors should be provided to closely supervise the apprentice work in the shop, since the department foreman under modern industrial conditions is strongly held for output and cannot give the apprentices sufficient attention.

The text used for instruction purposes has consisted largely up to the present time of loose-leaf sheets prepared by the respective companies and bearing specifically upon their standards and methods of practice. The field of text-books adapted to the mathematics and drawing of trade requirements has, however, been somewhat developed within the past few years.

Whether the mechanic who takes up teaching, or the technically instructed individual who goes into trade teaching and familiarizes himself with the specific trade requirements, is the more desirable, is a considerable question and should be an interesting subject for discussion.

The ability to hold apprentices after graduation is partly a function of their training during apprenticeship. It is also vitally a function of giving them after graduation a good living rate as journeymen in accordance with such service as they should be able to render after a term of efficient training in apprenticeship.

Respectfully submitted,

J. W. L. HALE, *Chairman.*

Massachusetts Board of Education, Boston, Mass.

W. L. Chandler, Dodge Manufacturing Co., Mishawaka, Ind.

J. M. Larkin, Fore River Shipbuilding Corporation, Quincy, Mass.

F. W. Thomas, Atchison, Topeka & Santa Fe Railway, Topeka, Kansas.

Paul V. Farnsworth, Cadillac Motor Car Company, Detroit, Michigan.

Thomas G. Gray, Southern Pacific Company, Sacramento, California.

THE CHAIRMAN: I quite agree with Mr. Hale that the purpose of a convention is to discuss reports which have been prepared by the Committees. The whole genius of the organization, as I understand it, in sending you the advance copies of these reports is to furnish you with an opportunity to discuss them, to air your opinions and convictions at the meetings of the Association. If you have any definite opinions on anything which has been expressed in this report by the Committee, or anything which is germane to the topic of Trade Apprenticeship Schools, this is the place to tell us what you think, both of what the Committee has done and what the Committee might have done if they had your viewpoint of the whole matter.

I accept Mr. Hale's suggestion, and, with your permission, I will be glad to call on Mr. Thomas, of the Santa Fe Railroad, to open the discussion.

MR. F. W. THOMAS (Atchison, Topeka & Santa Fe Railway): The report as a whole is a very good one. I am glad to come out and shake hands with the men responsible for it. Coming direct from the State of Kansas with its oceans of waving wheat, seas of sprouting corn, and immense plains of verdant alfalfa, it does a man good to come here, if for no other reason than to remind him what a great country he is living in back out there.

I said that this report on the whole is a good one. There are a few little features with which I do not agree, but on account of the report being so good in general I did not feel like offering any objection after the committee made it.

The first thing I wish to criticise in the report is that they do not emphasize the importance of having shop instructors in an apprenticeship school system. The weakness of our corporation school is the fact that attention is given mainly to the school. We spend most of our time, energy and strength in the schoolroom, leaving the boy at the mercy of the other mechanics and the foremen in the shop. In our modern shop the foreman has not the time nor the spirit to stop and show a green boy how to do things, and any railway company or corporation that starts an apprenticeship school, neglecting the shop instruction feature, is courting failure to start with. Take it from one who has been through the mill, you deserve to fail. I think our apprenticeship systems failed many years ago because we simply crowded our shops with green boys, and then demanded of our foremen

and our master mechanics that they produce a big output in the shop. If you require the shop officers to have a certain amount of output in the shop each month in order to keep expenses down, you must give them some leeway in the selection of men, or if you adopt an apprenticeship system you must give them sufficient help and sufficient shop instructors to take care of the young boys.

Another feature—What studies should be taught the apprentice boys? I showed this report to some of my apprentice boys, and it frightened them when they saw that in the course of instruction they would have to learn algebra, trigonometry, and similar subjects. When you put these subjects up to the average boy, he will be frightened by them. But if you teach arithmetic for a little while, elaborating on the subject a while, and gently or gradually lead up to Algebra and Geometry or Trigonometry in work and practice only, but not in name they will stay in the class and be eager to learn. My idea is that you should teach a boy in school the things he will need to know in his trade. The more book learning you put into a boy's head the more keen he will be to get something else to do. Our main object in our apprentice school system is to make mechanics for our shop. Our colleges furnish all the draftsmen we want, but what we need is trained, skilled mechanics, to manipulate machines and do the erecting work in our shop.

In a measure we have been successful with the apprenticeship system on the Santa Fe Railroad—I believe it is the best railroad in the country and I believe we have the best apprenticeship system in the country. As to our system of paying a bonus at the end of the apprenticeship: I find that one of the strongest inducements to offer a boy to stay with you is the fact that he has a definite sum of money coming to him at the end of his apprenticeship. We used to pay it in a lump sum, but now we pay it in two installments. We tell the boy we will give him \$75.00 the day he graduates. That is enough for him to get married on in Kansas. We then tell him that six months after his graduation we will give him another \$75, and that is enough for him to buy the clothes and baby carriage and other necessary outfit for his first born. The boy who has the money coming to him is likely to stick with us, in fact, they do stick with us. I brought four boys with me to Pittsburgh last night and put

them in an industrial plant here, so that they might secure what I may call a post-graduate course. One of the boys the day before he left Kansas was married to one of our corn-fed Kansas girls, and she is just as good a looking girl as those in Pennsylvania. There is no other woman on the face of God's green earth quite so smart, so highly and practically educated, quite so keen and quite so good a manager as our Kansas women. (Applause.)

I want to say a little about the results of the apprenticeship system of the Santa Fe. We have been running it for about eight years. We started it with some trepidation. I did not know what was required. While I was technically and practically educated myself, I was engaged in technical work, as Engineer of Tests for my company at the time. Our Vice-President saw we could not get mechanics enough for the road. We offered good working conditions, the best wages in the country, a nice clean shop to work in, plenty of good fresh air to breathe in the shops and after their work was done, and always an abundance of sunshine, but we could not get the men. They were nowhere to be found. Our manager came to the conclusion that the only thing for us to do was to train the men for our work. He told one of our shop superintendents (who is now a vice-president of the company), and myself—"I want you to go over the country and see what they have in the various shops of the country in the way of training apprentices." We went all through the section east of the Mississippi River and then we went back home with the best we could find on our trip and started to work, and we have accomplished some results. Today I see employers all through this section striving to get men to work. They cannot get the men. There is plenty of work to be done but no men to do it. They cannot employ them. Everybody who wishes to work is working. Everybody apparently is making plenty of money. If you want a man to do a job, and offer him \$3 or \$4 a day, he will laugh at you, because he wants \$5 or \$6 a day. There are not enough men to fill the jobs, due to your short-sighted policy; you have not made any provision for man-help for the future. I am proud to say in the face of the biggest business our road has ever done, with more work in our shops than ever before, with twenty per cent increase in business in every department, our railroad has not, for two years, gone outside the lines to hire a single mechanic in our main shop where we employ three thousand

men. That is the fruits of our apprenticeship system, for we are making them as fast as we need them.

THE CHAIRMAN: At the request of a number of our members who attended the convention in Worcester, this whole subject was purposely left open, and no program definitely arranged for discussion. The meeting is open to you all, ladies and gentlemen. We should be glad to hear of some other railroad experience, or a manufacturing corporation's experience, or any experiences that you may have to offer.

MR. PAUL KREUZPOINTNER (The Pennsylvania Railroad Company): I find a paragraph in this report which reads as follows: "For schools falling within the classification of this report, the school and shop training are but two branches of one training—to produce primarily all-around skilled mechanics." The idea is that the school should be preparatory to the shop training and the shop school, which it ought to be. Suppose we have a program like this in our elementary schools for the seventh grade:

Physics: Boys two hours and one hour laboratory work; girls two hours, without laboratory work.

1st lesson: Sources of heat and conduction of heat. Sun, heat in interior of earth, volcanoes, chemical heat, frictional heat. Conduction of heat, by metallic carriers, by convection.

2d lesson: Heat as a means of expansion. Air and water confined in glass and metallic vessels. Expansion of metals. Boiling point, melting point. Measuring of heat. Melting of ice, wax, pitch, lead. Evaporation by boiling. Condensation. Freezing. Winds and sea motions.

3d lesson: Weight of bodies. Point of gravity. Force of gravitation by own weight, in comparison with forces created by springs, muscular force, capillary force, and adhesion. Effects of force and counter-force. Motion and velocity, momentum and rest. Uniform and irregular motion.

4th lesson: The lever as an important simple machine. The balanced lever, the wintch, tongs, scissors, etc.

5th lesson: Hydraulics, water pressure in pipes in an open vessel. Bottom and side pressure of confined water. Swimming. Specific weight. Milk tester.

6th lesson: Air pressure. Uniform pressure of air upon all sides. Suction and pressure or force pumps. Atmospheric pressure. Barometer. Air balloon.

7th lesson: How do we hear? Origin of sound and its transmission, through solids, liquids and air. Velocity of sound. The ear and its mechanism.

Are our seventh grade boys able to do this work? I have been told that they are not. Is there any one in this room willing to admit that the American boy and girl is biologically inferior to the German, French and Swiss boy and girl?

The above subjects are taught in the seventh grade of the Munich schools. -

In that way you can create a larger relation and connection with your shop school. Otherwise you will not get it. Unless you do something like that you will always have to repeat and continue elementary and high school work in your apprentice schools and pay a lot of money for it, without getting the full mental value of the apprentices.

Then for the eighth grade I would propose the following:

Eighth Grade: Principal lessons, economics (commercial), geography.

1st lesson: Review of physical and political conditions of the United States.

2d lesson: The most important means of support of economic life. Cereals. Most fertile portions of our country to grow cereals. Importance of cereals. Cattle. The most favorable localities for raising cattle. Importance of cattle raising.

3d lesson: Related agricultural crops. Potatoes, sugar beets, tobacco, hops, hemp, flax, fruits.

Forestry, area covered by forests, esthetic and economic value of forests.

4th lesson: Products of the earth and raw materials. Industries depending upon coal and iron ore. Their principal products. Textile industries. Chemical and other industries.

5th lesson: Raw materials. Coal. Iron ore. Other minerals. Salt. Warm springs and mineral springs.

6th lesson: Commerce in mines and industrial products. Commerce with foreign countries. Trade and customers. Tariffs. Railroad and water transportation. Trade routes and ways of intercommunication.

7th lesson: Culture and utilities. The importance of the intellectual and moral efficiency of an individual for making a living.

Would our seventh and eighth grade boys be unable to grasp anything of this character? If not, why not introduce it? Why not ask our elementary school people and educators to introduce such subjects, so as to produce a natural connection between the elementary schools and the apprentice schools and all other industrial schools, for that matter.

MR. T. G. GRAY (Southern Pacific Shops): The report which has been submitted, covering a specific outline for conducting school work, is undoubtedly very complete, and is a very valuable source of information to those who are starting schools and to those who are developing schools, but I agree very thoroughly with Mr. Thomas in regard to the development of the shop training of apprentices. Why is it that we hear so much about apprenticeship schools and so little about the shop training of apprentices? I think Mr. Dietz this morning in the report of his Committee said, that where a definite record is kept of the shop experience of apprentices and they are moved on at the time they are due to be moved on, they immediately show a better standing in their course of instruction and show a keener interest in the work ahead of them.

In this connection, I would like to say that during the development of the schools on the Southern Pacific, an effort has been made to bring this thing out more fully than it seems to have been brought out on some other railroads. I think the training of the shop apprentice should not be left to the shop instructor, alone, but, in order to insure uniformity of training, it should be made a matter of record with the supervisor of apprentices, that is, the man who has charge of the school and shop training in the plant.

With this idea in view, we have gotten out a graphic chart, and we have noted on the side of this chart the specific kinds of machines to be operated, for instance, by machinists apprentices, and in squares, representing half weeks, we have noted twice a week the amount of time spent on the different machines, so that after a year's time one can look back over the twelve months and see exactly how much time a boy spent on each particular kind of work. That data is taken from the boy as he goes to school twice a week. The boy is interested, and knowing what the schedule is, he reminds you, if you should overlook the fact, that he is due to be moved along. In this way, a uniform training for

all the boys is obtained. They are contented and knowing what is to come next, try to prime themselves on the work which is ahead of them. This system has the effect of making the boys interested in the work and enthusiastic about it. This work has proven wholly satisfactory on the Southern Pacific Railway, and I offer the suggestion to those who want to improve their shop training.

There is another point in regard to shop instruction which should be gone into more fully, and that is, we often pick out men for shop instructors who are admittedly good mechanics, but we all know there are improved methods of doing things, very much improved methods, and while a man may be admittedly a good mechanic, he may at the same time not be in a position to guide the boy into the handiest way of doing things, the most efficient way of doing things, and I think that the next report of this Committee should endeavor to develop the idea of training and developing shop instructors, and of including within our school course such subjects as will bring to the mind of the apprentice familiarity with up-to-date handling of shop operations. There is a tremendous field for improvement there.

As I go through the shop and see a shop instructor showing a boy something on a lathe, or showing him some way of setting up work, I think that that is, undoubtedly, a good thing, but it does not go far enough. There are lots of ways of saving money, which should be brought to the boy's attention, and our local shop management should be broad-minded enough to welcome any innovations in the way of better methods of doing work and the apprentice system should be made the medium through which that thing is spread throughout the shop. It is in this way that we can get these ideas into the minds of the mechanics of the future, which will make the working force of the future more receptive of efficiency ideas. Every man who is trying to introduce efficiency ideas into a shop is meeting the obstacle of prejudice and resistance, simply due to the fact that in most cases the men do not realize just what the endeavor is that is being put forth, in other words, due to a lack of understanding. If you start in with some courses that will gradually acquaint these apprentice boys with the improved methods of doing work, in the future years you will have spread through

your organization men who will tone it up and put some ginger into it.

There is a great opportunity for very valuable work which can be done through the Apprentice School, the apprentice school to be the medium for the spreading of these ideas to which I have referred.

In connection with this there is another consideration. Often-times there is resistance offered to the introduction of efficiency methods in shops which is very excusable and perfectly natural, because in so many cases the labor in shops is exploited,—they will get men to speed up, get them to increase their output by these better methods, and then cut the price of the work down so that they still have to work exceedingly hard to make a fair wage, and the point which needs to be pressed home is that there must be absolute honesty, if it is a system of piece work, or a bonus system, it must be carried on honestly, the prices be set after mature study and consideration, and not to be changed for just some whim of a shop superintendent, or some one else. Just as surely as we fail to be absolutely on the square in regard to carrying out these efficiency ideas, we are going to drive the men away from us, and we are not going to get them to co-operate with us in introducing these ideas in the shop, and the apprentice boy is as quick to detect anything like this as any man in the shop.

I think along this line of work lies a field for development which we have not as yet paid much attention to, and which we need to pay a great deal of attention to. It points toward industrial supremacy, it points toward better ways of doing work, and it points toward a better revenue to our companies.

J. H. YODER (The Pennsylvania Railroad Company): I agree with Mr. Thomas that this report is very valuable, and I want to congratulate the Committee in compiling it.

In looking over this report, and those which have preceded it, I find that the chief points brought out can be condensed into ten basic principles. These might be called the ten basic principles of apprenticeship. I think they will form valuable information in regard to this discussion. They are as follows:

1. Object: To develop from the ranks in the briefest possible time carefully selected young men trained as mechanics for the purpose of supplying leading workmen for future needs, with

the expectation that those capable of advancement will reveal their ability and take the place in the organization for which they are qualified.

2. **Organization:** A competent person with adequate authority and sufficient attention from the head of the department must be given the responsibility for the apprenticeship scheme. He must select as school and shop instructors practical men with shop experience who can get along well with the boys and be capable of imparting knowledge to others.

3. **School Instruction:** School instruction is to be based on the primary needs of the trade in question. Academic subjects are to be avoided as such, but the underlying physical and mathematical principles of the trade introduced as needed.

4. **Shop Instruction:** A sufficient number of machines should be set aside for exclusive use of apprentices. Apprentices and journeymen working side by side, with the former receiving instruction on machine operation and mechanic arts from the shop instructor.

5. **Selection of Apprentices:** Apprentices should be accepted only after careful examination and interview by a responsible person in charge of the apprenticeship scheme.

6. **Records:** Continuous records of the standing of apprentices both in the shop and in the school must be kept.

7. **School Instruction:** Instruction must be intensely practical, and at the same time be positive: That is, "do" must be substituted for "don't."

8. **Courses:** Courses should be gotten up to suit conditions of the case in hand and be based primarily on company standards. Text-books as a rule should be avoided. Drawing courses to be based on regular drawing-room practice and to consist in drawing actual machine parts and not meaningless lines, circles, etc.

9. **Certificates:** Suitable certificates or diplomas should be granted and conditions made such that they have a high value and are respected.

10. **Retaining Graduates:** Graduate apprentices must be favored in every respect. Those showing exceptional ability should be promoted as soon as conditions warrant. They must be made to realize that by conscientious effort and earnest endeavor they can obtain still higher positions.

I do not wish to discuss these different principles in detail

as this would take too much time, but I want to say a word in regard to having the instruction positive. There are many boys who might be called the purely "physical type," whose muscles develop faster than their brains. Due to their great love of activity they often get into all kinds of mischief and, as a rule, they are handled in a negative way by telling them not to do things, "do not do this," and "do not do that" etc., which of course is fundamentally wrong. I do not believe in plastering a schoolroom with placards and having such sentences as "don't use a file without a handle," and "don't tap a file on the bed of a lathe," etc. I think such statements should be made positive. The boys want to be given something to do and not told something not to do. This reminds me of an advertisement I saw in regard to an educational course. The advertisement of the course had the picture of a railroad signal in the shop position, that is, the blade of the signal was in a horizontal position, and on the blade were these words—"Stop—Think." It would be far better to show the signal in a vertical position (meaning clear track ahead) and have these words inscribed on it: "Think: go ahead at full speed." It is essential that apprentices be taught to think and keep on going at full speed. Any man who must stop to think will be outdistanced by the man who can keep moving ahead and think at the same time.

In regard to the selection of apprentices, too much emphasis cannot be placed on the entrance examination and on a close personal interview of the applicant. Entrance examinations have been in vogue on the Pennsylvania Railroad for some time, and lately more stress, or at least as much stress is placed on the interview given each applicant as on the written examination. Our examination consists of ten problems, some of which cover simple arithmetic up to and including decimals. Some of the questions included in the examination are such as—"What trade do you wish to learn?" State your reasons for selecting this trade." Another question treats on a little local geography and takes in some points in civics, such as "Who is President of the United States?" "Who is the Governor of the State in which you reside?" "Name six important cities in your State." These are comparatively simple and tell whether the applicant is wide awake and up to the times. The last question in the examination is—"Describe some mechanical work you have actually done."

It is necessary to explain to the boys what is meant by this question. The idea is to determine whether the applicant has been working with tools. Most of the boys who will make good mechanics have been doing all sorts of things with tools, constructing anything from a miniature steam turbine made out of a small paddle wheel, with a tin can as a boiler, up to almost anything conceivable. In making these contrivances the boys show actual mechanical ingenuity. The idea is to draw information from the applicant and find out, relatively, whether he is fitted to become a mechanic. If the boy shows apathy along these lines, I do not believe it is advisable to select him for instruction as a mechanic.

We try to avoid the making of mistakes such as would keep out desirable young men, who may have mechanical ability but who cannot pass a satisfactory examination in simple fractions. Some time ago an applicant was examined and it was discovered that he was compelled to leave school at an early age due to the death of his father. He was a bright boy, but could not make seventy per cent on our examination—the best he could do was to reach a mark of sixty-five. He will be given an opportunity to prepare for a second trial, and I have no doubt but that he will pass. I believe that he will make a good mechanic. Sometimes we get boys who might make seventy per cent. in a written examination, but who show no mechanical tendency whatever, and give no indication of developing into capable workmen. These may be turned down on a personal interview. We have been weeding out undesirables in this way, and at the present time nearly all of our apprentices are doing excellent work. The success of our apprentice schools depends largely on the degree of care with which applicants are selected. The work should be conducted in such a way that each apprentice be so selected, trained, managed, and educated that he will express for his employer his highest and best constructive thoughts and efforts.

MR. F. W. THOMAS: On page 165 the last paragraph, I would like to offer a motion to change that paragraph. It now reads: "The ability to hold apprentices after graduation is partly a function of their training during apprenticeship." I would like to eliminate that word "partly," and make it read: "The ability to hold our apprentices after graduation is a function of their training during apprenticeship." I would also like to make a

further change. It is stated in the same paragraph: "It is also vitally a function of giving them after graduation a good living rate as journeymen in accordance with such service as they should be able to render after a term of efficient training in apprenticeship." I would like to have that: "It is also vitally a function of giving them after graduation a compensation equaling the rate paid full-fledged journeymen." We have spent four years in training the boy, and if we cannot make a boy after four years of training a full-fledged mechanic and capable of earning as much money for his employer as a fellow who has picked up his trade in three or four years we have failed, and I would make it emphatic that we can in four years' time take a boy and train him so that he is capable of earning as much money as any other mechanic.

THE CHAIRMAN: The Chair understands this motion to be to change this report before it is printed in the Proceedings?

MR. A. F. BARDWELL (The Yale & Towne Mfg. Company): That matter has been considered on the Southern Pacific, and I believe also by plants in various parts of the country. I think the report as it reads is correct. In the first place, I agree to pay an apprentice all he can earn, but you must all agree that no matter how bright some persons are there is some one who is brighter, and so it is with apprentices, and I believe the way to settle this proposition is to pay the apprentice what he is worth. I know that in the railway shops they have a set rate and every journeyman gets the same rate. But that does not cover the whole country. There is practically no limit to this matter in the East.

MR. J. W. L. HALE: To carry out Mr. Thomas's idea would make a more definite proposition of that last paragraph, but it is the thought of the Committee that it would be safer and more logical and more in accordance with the actual condition of affairs to have the paragraph stand as stated in the report.

THE CHAIRMAN: Are you ready for the question? The motion is to change the last paragraph of this report, instead of the reading at present, to read: "The ability to hold apprentices after graduation is a function of their training during apprenticeship," and "It is also vitally a function giving them after graduation a compensation equalling the rate paid full-fledged journeymen."

MR. J. J. GARVY (Western Electric Company, Inc.): I think

the two things should be voted on separately. Maybe some of us believe in one and not in the other.

THE CHAIRMAN: The Chair feels there is no objection to having them voted on separately. Mr. Thomas has no objection to having them voted on separately, I understand? The question is on the first sentence in the last paragraph, the amendment as moved by Mr. Thomas. Are you ready for the question? (The vote was then taken.) The noes seem to have it, but there is some doubt. Is there a call for a division?

SEVERAL MEMBERS: "Division, Division."

THE CHAIRMAN: All in favor of the motion, please rise. (Twelve members rose.) All opposed to the motion please rise. (Fifteen members rose.) The motion is lost.

MR. F. W. THOMAS: Only class members can vote?

THE CHAIRMAN: Do you wish to prove the right to vote? (No response from Mr. Thomas.) The motion is lost. The question is on the second sentence in the last paragraph. The motion is to change it to read: "It is also vitally a function giving them after graduation a compensation equalling the rate paid full-fledged journeymen." (The motion was put to vote and lost.)

MR. E. H. FISH (Norton Companies): Mr. Thomas has advertised the Golden West and the Santa Fe road, and got away with it, all right. We should get a little advertising for the East. This audience ought to know that Mr. Thomas was an apprentice, and he was a very good apprentice, to a Worcester Tech. man so that we will get that much credit for the East.

I want to agree with Mr. Thomas in his conclusions in one respect, and at the same time disagree with him in the way he arrived at them, and that is on this question of what we will do with the fellow who comes into our machinists apprenticeship course, and the Lord knows we need machinists in this country badly enough, if he shows the signs of being capable of doing bigger things. I think that Mr. Thomas created the impression he wanted to keep that man from getting at books on differential calculus and such subjects, for fear he would go after a bigger job. I do not believe he really meant that the way he put it, but it seems to me that we might differentiate between two classes of schools. Say that we have a school for apprentices, such as we are discussing this afternoon, and we might well confine its

instruction to the things that a machinist can use, though I doubt if very many machnists in the Golden West are using differential calculus in their work. While they may be using trigonometry we could possibly disguise that so that they would take it without knowing what it was, and consequently not be scared away by it. If these fellows show unusual ability, and desire to go to something bigger than being a machinist, instead of hitting him over the head and saying—"Here, you started out to be a machinist and you must be a machinist," it seems to me we should have some other schools in our establishment, which these fellows could be promoted into, perhaps away from the apprenticeship work we are speaking of, into some school which will more directly meet their needs, and in that way we will solve the difficulty Mr. Thomas has run into.

MR. A. F. BARDWELL: I have read this report and it appears to me as being, as a whole, just what we were looking for. We can find fault with the best, and we can find some fault with this report. While much has been said about advertising the Santa Fe Railroad, and the East, etc., I would like to get down to just what it says here. On page 139 appears the following: "What special school-room methods have been used to develop the following mental traits in apprentices; ability to reason, originality, resourcefulness, stability, common sense?" That is mighty good. That is what we are looking for, but what we all want to know is how to get it, and how many do know? None of us have had experience to show how to get it all. The Santa Fe Railroad, it has been stated, has been at this work for seven years, and there are others who have been at it for seventeen years. I do not hear any of the people who have been at it for seventeen years talking much about it, but the whole thing can be summed up in the way that we see it. The conditions will vary with each line of business, if it is railroad work or machine shop work, or whatever it is, your conditions will vary, yet there are a few fundamental principles that I believe we could all use.

How do you develop ability to reason? As I said a few minutes ago, you cannot get blood out of a stone, and you cannot get the same qualities out of a half-dozen different individuals, although they all may have been educated in the same way. Our method of getting that reasoning power is

along these lines. While I do not wish to whip the public schools around, yet at the same time they are simply following the plan of "Do as I say and do as I show you," and there is not anything in that plan, particularly, that brings out just exactly what Mr. Hale says here; and the question is, How do you get it? Do you get it with books? Take it up in connection with arithmetic which they all say we need in any trade. Do you get it out of books? No, we discarded books in our apprenticeship trade school over five years ago. We have no text-books whatever. Many men have written to me for information about our plans, and I did not wish to give the information which they requested. We have no books and do not want them. I will tell you why. You give a boy a book and bring him into the class-room, and what does he say? "I can get that to-night or any time I want it." Are you developing just what it says here with that kind of apprenticeship school training? No. If you say to the boy, "This is a lecture proposition, you can get it here, and cannot get it anywhere else," after failing once or twice he thinks, "Well, I have got to sit up and take notice; I have got to learn by word of mouth." There is your development right there, from our standpoint.

Now, as to originality, you cannot develop originality unless it is born in a person. Some persons have it naturally. Others have none whatever. You may call it originality, but I would rather put it in another way; I would rather call it imagination. Nobody ever got anywhere without imagination, none of you people got to this Convention without imagination, and I would prefer the word "imagination," although the word "originality" is all right as it is put here.

As to resourcefulness, there it comes back to what I said before. You teach them to be resourceful by teaching them to be observant, and to exercise their talents, and do all they can to develop them in that direction. Ability and common sense will only come to those who have those qualities.

Take question 2: "How can home study be encouraged?" I have spoken on that subject before, and I think I will pass it over by saying you cannot bring that about. The next question is, "How develop self-confidence in handling machines?" I can only explain that by describing the way we do it. Much

has been said here about instructors, all of which I agree with in a general way, but, on the other hand, the instruction as it is given by most corporation schools I do not agree with. The great trouble appears to be that the corporation schools imagine they are giving the apprentices a good deal more instruction than they really are. As a matter of fact, they are giving the apprentice merely a machine job from day to day and month to month, and at the end of four years they call him a journeyman, and he has never made any one thing. He has simply been a machine hand. How do you expect to get with that kind of training a young man who can differentiate what kind of a fit he will secure in any piece of machinery, or what the effect will be of grinding a piece on one side after it has been ground externally? He does not know anything about such things.

Another thing, if anything comes up, such as "What happened to this machine? Why has it gone wrong?" he will reply, "It was all right when I left it. The other fellow did it."

We take a number of young men, and in each case they make something from the first day they come to us. We give them something to make, and they take the raw stock and complete some mechanical device. Of course, at first it must be very simple. They have learned to make something.

Another thing. You talk about instructors, and keeping apprentices with the journeymen. You will get a journeyman proposition out of it just as long as you do that. As a matter of fact, we found years ago, after trying for forty years various apprenticeship propositions in all forms, that the only way of handling the propositions successfully was by segregating them, buying some machinery, putting them together, and then putting your instructors over the apprentices. We originally had the apprentices all together, and the result was we outgrew those quarters, and then, instead of having them all in one room, we were obliged to take the floor above and separate them. The result was, that while we thought it was a hardship, it proved to be one of the best things we ever did. That may be new to some of you. The fact was that we put another instructor on the floor above, and then we got less growling and less repeating. I was talking only a few years ago with one of the boys who attended the classes in both places, and his statement was that it is much better to have two rooms, because the four

years look long to the apprentice boy, and if they are in one room only, there is not another room into which they are to graduate. This boy told me that he had looked forward to the graduation into the other room, just as any student in a graded school would look forward to graduating, and what we are proposing to do is to have three rooms, instead of two, and that makes a move every year. The boy goes in as a beginner, and during the second year takes the second year's work, and the third year the third year's work, and the fourth year's work ends with his becoming a journeyman. At the end of the fourth year, when they become journeymen, we find that they work just as fast and just as accurately as any journeyman we can hire from the outside. Then we observe what environment will do—they slow down, and that is brought about by the influence of the older journeymen.

MR. J. H. YODER: I cannot agree with Mr. Bardwell about having a separate training room. That may do in the kind of shop with which Mr. Bardwell is identified, and I have no doubt it is a success with his company, but I do not believe it will work well in railroad shops. You cannot have a separate training shop equipped with cranes and the necessary appliances to do erecting shop work. The only place where you can do that is in the regular shop. The special training shop would of necessity have to be equipped with the smaller machines. In these separate training shops set aside for apprentices, the tendency is in some cases to make playthings or other special exercises instead of doing actual shop work. That is not the case everywhere, but it is often done. I have known cases where toy locomotives have been built, etc., and I do not believe in it. The boys should do actual shop work, and work with the men and receive instructions from the shop instructor and foreman.

I think the work of this Committee has come to a point where it is desirable to differentiate between railroad shop work and that of the manufacturing corporation. I think it might be desirable to consider the advisability to have a separate committee handling the railroad shop work and a separate committee handling the work of the purely commercial manufacturing corporation. I am sure in that way the Committee could do more effective work.

MR. W. H. EYLER: I just want to say a word on this point,

too: "How can home study be encouraged?" Mr. Bardwell spoke about it as being an impossibility. We have at the works of the Goodyear Tire and Rubber Company a special corps of men to whom we are giving some special training in the technicalities of the rubber business, and as to solving the question of home study, the man or boy must answer that for himself. We have experimented on having the apprentices do their studying at home, all of it, and we have had similar experiences to those of Mr. Bardwell, and we have got around to the point of having a study room in the factory; we have our regular class-room, of course, and we have a study room also, and the men who are taking the course go in and study at stated periods, just the same as they would go in for a lecture or recitation, and we have an instructor in charge of that study room. He is there to help the boys over the rough places, and he is also there to see that the boys are kept busy. We have just started on that feature of the work this year, but it seems to be working out very satisfactorily, when the grades are taken into consideration. That has been our method of handling that feature of it.

MR. J. J. GARVEY (Western Electric Company, Inc.): It seems to me, Mr. Chairman, that the correct answer to this question is to have both.

In the Western Electric Company we have both a training shop, in which the students work a portion of their time under competent instructors, and groups in the regular shop under the supervision of the shop foreman.

Apprentices are assigned to the training shop when they enter a new period of work; it may be on the milling machine, the lathe or the grinder, but at the start of each definite period they are transferred to this shop. These periods may be divided along machine lines, or some other lines, if you prefer.

The instructors are workmen from the tool-making branch, highly skilled in their respective lines of work and possessing the ability to impart their knowledge to the student. One of the important duties of the chief of the apprentice department is to train competent shopmen for instructors.

When the apprentice has completed his period in the instruction shop, he is transferred to the shops of the Tool-making Department, reporting to the shop foreman and working shoulder to shoulder with the journeymen. This gives him the oppor-

tunity to put into practice under actual working conditions the knowledge and skill acquired in the instruction shop. A report is made each week on the quality of the work produced, application, etc.

I believe that the selection of the right class of boys is of the utmost importance. I agree with Mr. Bardwell, that you cannot furnish the brains, and that the boy must come endowed with them or you cannot develop any of the points called for in the report.

MR. C. R. DOOLEY (Westinghouse Electric and Manufacturing Company): Mr. Bardwell says home study cannot be done.

MR. A. F. BARDWELL: No, I said it was not profitable.

MR. C. R. DOOLEY: I thought you said it was not possible. We post every day on a bulletin board, which hangs on the wall, the record of every boy's performance. The boys do most of their home work, I should say 90 per cent. of it. They do about as much work at home as in the class. The publicity of the records is at least one important factor in bringing about this result.

There is one other factor that helps, and that is the promotion which comes at the end of stated periods. The boys who have not done all the work assigned to them may not be advanced in work or standing.

Mr. Fish raised a question as to how you would train the fellow who had capacity for executive work. I thoroughly agree with Mr. Thomas that the first thing we should do is to train the boys in those essentials which will make for the efficient pursuit of the trade at hand. I would include drawing, elementary physics and elementary mathematics, such as enter into shop problems, for the express purpose of making a machinist. If the young man has the capacity to become a superintendent, or even a vice-president, he still must have certain training in these fundamental things. So I think this is a good way to state it—teach those things which are essential to the trade, and then surround each student with all the encouraging environment at your disposal offering opportunity for advanced education, but leave it entirely optional. The word optional, I think, defines the line between the things you should teach to make the apprentices skilled in any particular line, and that training which will lead on into higher capacities. I would go

so far as to put all the encouragement you can, all the reasonable pressure you can, on the boys, to lead them into these higher pursuits, but it would be a fatal mistake to force them. We are very chary about forcing a fellow to do anything, but we like to pile it in front of him so thick that nothing short of inability will prevent him from going further.

MR. A. F. BARDWELL: Lead him——

MR. C. R. DOOLEY: Lead him, but do not pull him. He must do all the work, and you can only provide the way. I thoroughly agree with Mr. Garvey in the necessity of a training shop. We have been following that kind of shop training for seven years. One recent development of it may interest you. Three months ago the training shop and all the regular shop work of the apprentices was put under the supervision of the educational department, instead of the production department. We have both special shop and regular shop training, as Mr. Garvey said they have.

The boy receives his preliminary training in the training shop. We teach him the swimming stroke, getting him fairly well started, so that he will not drown. Then he goes out to the regular production shop to make good. His performance record comes to the educational department at all times. These reports are very definite and frequent. They are made out on a standard blank by the foreman, or whomever these boys come directly under in their shop work. These reports help us size up the boy and direct him. They stimulate the boy to better effort and give us an idea of what line he should specialize in: whether he shall become an extreme specialist or merely a general workman; whether he has executive capacity or routine capacity. They also help the foremen to develop their ability to judge men more accurately.

I want to close with this idea—that there should be definite divisions of time in the standard shop schedule. Some one—I believe it was Mr. Dietz—said that the whole shop should be scheduled, and in my opinion that is right. There is nothing more discouraging to a boy than to feel that he does not know when he is going to be transferred. He should be assigned so many weeks to serve on a certain machine. When that time expires the only question is, What kind of machine he will go to next. The determination of that next machine must be made contingent upon his performance with the previous machine.

Suppose his next machine is to be a lathe. Everybody knows there are many kinds of lathe work, and whether he gets a higher grade of lathe work or a lower grade of lathe work should depend upon the performance he exhibited in his previous period; in other words, the date of transfer is definite, but the grade and character of work assigned is a function of past records.

It is a good process from start to finish, and the enthusiasm, interest and progress which the boys show more than illustrates the wisdom of having a record system and a definite schedule.

MR. THOMAS G. GRAY: In regard to railroad shops, it is possible to have the boys in what is equivalent to a separate training department in erecting locomotives. I think in most locomotive shops that the last two years are spent on erecting work, and on the Southern Pacific, at present, instead of putting a boy in the erecting gangs with the journeymen, he is put into what we call an apprentice gang, where he is under an instructor. A boy starts in on the rougher grades of work, spring rigging or brake rigging, and general filing and shipping, and then to the more advanced work of laying off shoes and wedges and setting valves. He gets eighteen months of that, and during the last six months of the last two years goes out into the regular erecting gang and has a chance to become speeded up to the business of the shop itself before getting to the end of his time as a journeyman. So that it is possible to carry out the separate training idea, even in railroad work, so far as the erecting shop is concerned.

MR. A. F. BARDWELL: I will give you an experience we have had. Last winter our company put up an efficiency course for everybody, from the president down to the foremen. One hundred and ten took the course, including the president of the company. The stipulation was that those who took the course would pay \$30, and if they passed their examination and got a diploma the company would give them back \$15. They all got the \$15, but about three people wrote most of the examinations.

MR. PAUL KREUZPOINTNER: Speaking about home work, I have made some observations with the free library I have in my house. We have no free library in Altoona, and a few years ago my wife and I started one in our house. We have over six hundred members, and I noticed many of the boys are

eager for magazines and books of a mechanical and industrial nature; they are delighted to get hold of such literature, and come back telling what has attracted their attention.

This would indicate that if, under the circumstances, home work could be made recreational and voluntary, much interest could be aroused in home work.

Before there was an apprentice school at Altoona some young men came to me for information about materials. I started with fifteen and before long I had all the apprentices, and a number of journeymen under my care, and I found them willing to do extra work at home, write little essays of what they had seen on excursions or attend illustrated talks in the evening. With the Milwaukee continuation schools their library has proven a very valuable auxiliary. I feel sure home work can be stimulated in some such manner.

MR. E. H. FISH: There is another phase to this matter of home study which has not been touched on, and that is the personality of the man who is looking after it. Last fall we had a little labor difficulty which led us to feel that we wanted the few apprentices who stayed with us to be in the shop as much of the time as possible. Previously we had taken them into the class-rooms for four or five hours a week for certain instruction. We cut that down to one hour a week.

The man who looked after their class-room work was instructed to give them as much instruction as previously, but to do it at the machine, go around every day and see the man at his machine and see him work and give him work to take home and do at night, and then see that he brought it with him completed the next morning, barring occasional nights when he might go to the movies. He has found it easy to do that. There is no difficulty about it whatever. It is simply a matter of personality. He impressed on the boys that they were getting something out of it, they see it, and they are doing the work.

MR. C. R. DOOLEY: In all of our educational work we employ teachers who contribute only a portion of their time. I know of some concerns which employ men and women to give their entire time to the teaching. I would like to hear that point threshed out.

MR. W. B. RUSSELL (Franklin Union, Boston): I represent an institution devoted exclusively to teaching men already en-

gaged in industry, employing a staff of fifty instructors, all of whom are giving only a portion of their time to teaching. Basing a comparison on previous experience with corporation schools where instructors give full time to teaching, I have no hesitation in saying that the part-time instructor is by all odds the best for the corporation school. He comes with a freshness and vigor to the work which a full-time instructor seldom possesses. He is up to date as he is in daily touch with the latest commercial practice. No matter how intensely practical an engineering plant may be, if a man is pulled out of the active side of the business and put into a corner with a school to administer, he is liable to settle back into the atmosphere of his school days and to become a sphinx or a fossil.

MR. C. K. TRIPP (General Electric Company): I represent the General Electric Company, and in that company we have a number of large factories. Our school was started about seventeen years ago, and we have in one department about two hundred boys, sometimes the number runs from two hundred and twenty-five to three hundred in one department. We have in that department four instructors: one man who looks after the grinders, another who looks after the shafting work, a third who looks after the tool work, and the fourth who looks after the turbine work. We have that number of instructors in the room besides myself and the man who takes my place while I am away. We keep these same men on the job all the time. The man from the Norton Company, who understands the grinding, was with them eleven years. I wrote to them that I was handicapped and wanted an experienced grinder, and they sent me one. He just looks after the grinders and does not know much about anything else. That is all I want him to teach the boys.

On the turbine work we have a six months' course. We go around the factory, and if we find men who look bright and intelligent, and they express a desire to better themselves, we take these men and train them on some one machine—six months on one machine; in some cases an intelligent man might only spend three months on the machine. The man whom we have as instructor on the turbine went there for a six months' course, and is the best instructor we have simply because he had ability.

All of my own men have been trained for the part. All of our instructors in the class-room work have been our men trained

in the shop. They do not come out of the shop and offer any suggestions. It is intended that they shall teach drafting and all mathematical subjects. We have an instructor for electrical subjects, the selection of materials, etc.; in fact, all the subjects you train boys on.

Mr. Thomas said he did not think it was right to train a boy too highly in mathematics. If they are intelligent, they will get along and make their way, even though we do not extend our training to include the higher studies.

I came in one morning and saw a boy at the instructor's desk. I asked him where the instructor was, and he said that he was away for the day—was sick. A few minutes afterward this boy told one of the apprentice boys to go to his desk. The instructor was absent for about a month, and the boy proved that he had more ability than the instructor. Unfortunately, this young fellow worked so hard trying to make good that he had a hemorrhage some time ago and was compelled to remain away from the factory. These fellows find themselves. You do not always have to pick them out. We have twenty-five boys teaching manual training throughout the country. The superintendent of apprentices in trade education in Connecticut came from Schenectady, and unfortunately he has taken from our Lynn works at least ten of our best apprentices, some of whom are taking mathematics and some machine work, and I think Connecticut leads any other State in the Union in trade training. The boys learn painting, plumbing, steamfitting, and they would put many a journeyman in these trades to shame if he could see how well the boys do this work. They do the work practically without compensation, while the journeymen are getting eighty or ninety cents an hour, against the boys' eighty or ninety cents a day. Some of the journeymen, who have served their time as machinists, do not have the intelligence these boys have.

There is one thing I think we should talk about, and that is the matter of compensation. We put our time into educating them, and after we have educated them, and they are thoroughly expert, they get more pay than in any other trade.

MR. C. R. DOOLEY: I had particular reference to the teachers of academic subjects and simple problems. I think that we should not have a professional teacher of arithmetic, who would teach that and nothing else. All of our teachers are employees

who are employed in various capacities. The academic teacher teaches the methods to be used at some future time when the occasion may arise for it. The man who has his daily life full of business affairs is teaching boys to meet new conditions, and the arithmetical methods involved in specific problems are mere details in developing the boy's capacity.

MR. W. B. RUSSELL: I wish to put in a plea for the small shop, as no plan for training employees can prove ultimately successful that is not fitted to the needs of the small employer. The discussion at this convention shows that the large employer, provided he has the disposition, breadth of view, and foresight, can train his organization efficiently and economically. In organizations which are not large enough to warrant the employment of a full-time shop demonstrator or instructor, could not this Association emphasize the desirability of employing for this purpose half a man or even a tenth of a man? Several railroads and small manufacturers have worked the thing out. In some cases an assistant foreman gives several hours a day to shop instruction and a draftsman is responsible for the school. In other cases a single man handles both shop training and school instruction. Moreover, the experience of the railroads has shown that the small shops may meet the case better than the large centers, because of the closer personal touch of the apprentices or employees and their instructors.

C. K. TRIPP (General Electric Company): Our apprenticeship system was started about seventeen years ago. We have in our machinist training room at the present time about two hundred apprentices, with four instructors who devote their entire time to teaching.

We have one instructor on grinding, one on shaft work, one on turbine work, and on jig and tool-making; also the supervisor of apprentices and his assistants.

The instructor in grinding is a man whom the Norton Company recommended as one of their best men. He having been in their employ eleven years, is especially adapted for teaching grinding.

Our instructor on turbine work is a graduate of our six months' course. This course is open to intelligent employees over twenty-one years of age who wish to better themselves. They are given an opportunity to specialize for six months on

one particular machine and thoroughly learn the operation of same, after which positions, according to their ability, are found for them throughout the factory.

All of our class-room instructors have had practical training and are specially selected from our drafting and engineering departments. They do not spend any of their time in teaching the shop work, as they give their whole time to the instruction of drafting, electrical subjects, and mathematics, or the subject for which they are best qualified.

Mr. Thomas said he believed it was a mistake to train apprentices too highly in mathematics. If they are as intelligent as we require them to be, they will obtain this education even though we do not extend our training to the higher branches.

I came in one morning and found one of the apprentices at the instructor's desk. Upon inquiring as to the whereabouts of the instructor, the apprentice informed me that he was out sick. A few minutes afterwards I heard the boy tell another apprentice to go to his desk for something, he having assumed the responsibility of his foreman. This demonstrates the fact that a great many of these young men find themselves, and it is not always necessary for us to select them.

At least twenty-five of our graduate apprentices are teaching manual training throughout the country.

I think the problem in connection with the small shops has been solved, in that they do not hesitate a moment about taking the apprentices from the larger factories, regardless of whether they have been graduated or not.

MR. J. J. GARVEY: I am one of the men who believe that a man cannot have very many irons in the fire at one time without burning some of them. My experience is, that if you have a single interest you will pay better attention to it than if you have a number of interests among which to divide your attention. I believe the answer to the question Mr. Dooley brought out is the selection of the right man for a class-room instructor. Our class-room instructor teaches both mathematics and drawing, and devotes all of his time to this work. The number employed in my shop is such that this can be done. As this instructor has been a shop man, a draftsman and a tool designer, he fully understands that he will not progress unless he keeps in close touch with all of the shop activities.

When a new problem comes up in the shop, he gathers a group of apprentices around the machine and studies the problem under actual working conditions, in order that they may all understand the practical application of the class-room instruction to the shop problem.

I do not believe it is so much a question of having the various interests divided, as it is a question of having the right man in the right place, and insisting on his keeping up to date in the various subjects connected with the shop and class-room instructions.

MR. J. E. BANKS (American Bridge Company): We have in our company, as far as I know, the only apprentices in drawing in the United States. Difficulty was had some years ago in getting enough college graduates to fill our requirements for draftsmen. It was decided to train some young men in our own schools to be draftsmen. We have been successful in doing it. Some have gone on in their studies and taken quite lucrative positions.

I speak of this because there may be others who will need new office men, and who will find the college man either too scarce to get, or too expensive when found.

The only trouble with our drawing-room apprenticeship scheme is that we lose too many of our draftsmen after graduating them. For a time it did not seem a really paying business, but we have concluded that having raised a good man and sent him out, in the long run we are benefiting a community and ourselves indirectly.

We put no limit on the shop apprentice course, no limit for the man to go on in learning useful things. When he finishes the shop apprentice course, he has the liberty of going into the drawing-room apprentice classes or in our special class.

THE CHAIRMAN: If I may be pardoned for saying just a word or two, I wish to address a few remarks to those of you who are not particularly interested in shop work, to those of you who represent institutions which have no shops, and to thank you for your attention and interest during this entire discussion. To me it is very significant of the purpose of the organization. You are here to find out what the machinists, and what those who are teaching the operation of machines, are doing to develop the men they handle. In your particular work, whether in hand-

ling machinery, or handling mathematical problems, or any other problem, you are handling men and women, and you are listening with attention and trying to get from these various opinions regarding shop practice and the training of apprentices something which will be useful in your business, and I am sure you get it, I get it, constantly, and I am concerned with something which is not any further removed from machinery and shop practice than the operation of a dry goods store; but through all this discussion there runs a note of general interest, and we get something as to systems of reward, and something as to what shall be paid to a person after finishing his apprenticeship, which we can translate for use in any of our respective businesses.

The Association has arranged for those who are particularly interested in many phases of the Association's work to meet around round tables in the evening, and you are requested to go to the round table in which you are particularly interested, and there spread your cards on the table and discuss in detail and definitely those things in which you are interested.

Another very significant thing to which I wish to call your attention is that today industry is meeting industry, and we come here today representing our various industries, that we may learn from all the other industries represented here.

Mr. Hale, do you desire to close the discussion?

MR. J. W. L. HALE: The Chairman of the Committee is somewhat disappointed in the way that what has been said this afternoon has been mostly in the line of either approval of what the Committee has submitted, or in the way of giving supplemental matter or material, suggestions, or relation of experiences. It seems to me that a great deal of good comes when there arises or is present an element which introduces very strong objections to points brought out in the report. However, there is a little hope left, as we have another session this evening. That session, following the policy of previous years, is intended to be very informal. It is the hope of the Chairman of the Committee that there will be a very lively discussion at this meeting.

There is one important point which has been brought out this afternoon, and that is the value of the apprentice training in raising the moral conditions of the whole shop. This is an ele-

ment which is very important. We recognize nowadays that there are certain elements in corporation organization which have to be counteracted or neutralized by other elements which have their fundamentals largely in educational work, such as we have been discussing this afternoon.

I think it is hardly worth while for me to attempt to summarize or go over the different points which have been brought out, that is, the different specific questions which have come up. If, however, it would be of interest to you, I might say frankly on the question of home work that my experience with the Pennsylvania Railroad, extending over a period of five years, in organizing their system of schools, leads me to the belief that home work is very desirable. In this specific corporation, apprentices are not paid for the time they put on this home work, but are given distinctly to understand that their progress and their rating depends on their attention to this work. There are also social and moral conditions which home work improves. Therefore, from my experience, I cannot see but that it is very desirable and should be required.

Now, for the last four or five years, ever since our organizing convention in New York City, the duty of the several committees has been principally to collect data and material showing what the several corporations have been doing. We are now come to a point where this material should be standardized, as far as possible, remembering, of course, that each corporation to a considerable extent has its particular problems to meet, and must put its particular interpretation on the available data. There is considerable data at hand, and it remains for the succeeding committees to put this into some standardized form. It is the hope of the Chairman of this Committee that succeeding committees will be much more successful than the present one along this line. This Committee has made an attempt to begin the work of very definitely stating requirements, as far as those requirements can be logically stated, with a view to the local conditions of each corporation.

I do not know that there is anything more I can say now, except that I hope there will be a good attendance this evening at the round table, that discussion will be lively, and that the report will be criticized, because when there is a difference of opinion, we are much more likely to get at the real meat of the thing and obtain more practical results.

ROUND TABLE DISCUSSION

TRADE APPRENTICESHIP SCHOOLS

TUESDAY EVENING, MAY 30TH, 1916

THE CHAIRMAN: Gentlemen, this is an informal session, and you are free to speak your minds and ask questions. I believe it is the policy of the Association at these Round Table Conferences to report the remarks of the speakers under the heading "A Delegate" rather than under the specific name of the speaker, so that you need not have any fear of disclosing some secret of your corporation in your discussion, or of being involved in any way. We all have problems to meet, and now is a good time to thresh them out and discuss them fully. So, gentlemen, the meeting is open for questions.

A DELEGATE: The first question I would like to put before the meeting is this: in the experience of those present, how far is it desirable, or to what extent is it desirable, to try to teach our apprentices some English?

THE CHAIRMAN: Would any one like to reply to that question?

A DELEGATE: I think it all depends on how much English is needed. In our shops, we do not have reason for teaching English to our apprentices. We do not deal with the foreign element, and our people seem to have a knowledge of English when they leave the public schools, as a matter of routine, which is well enough for our business.

A DELEGATE: In our institution, it seems to me, we have three distinct types of corporation schools—the first is entirely made up of foreign laborers, and while they are not apprentices, they are men preparing to be apprentices. They are not able to converse in English, but we have a school, *quasi public*, as I expressed it this morning, which teaches these men English and everything else. We have another group, our apprentices, who go as low as the third grade, they having left the public school at that time. They are also given schooling which is *quasi public* in its nature. Then we have the corporation school proper, which

teaches the technique of the industry, which is truly industrial school work.

A DELEGATE: I was formerly connected with a printing press house, making large newspaper presses. In order to transport these presses they have to be knocked down and shipped disassembled, and an erector goes along with the press and erects it.

The purpose of their apprentice system is to give the boys enough English to enable them to write a good report, or to be able to explain some difficulty which they are up against, to be able to express it in a clear way, and at the same time to increase the vocabulary, both generally and technically.

A DELEGATE: Along that line, at the Rubber Company, we have a small apprenticeship school, and then we have a special group, which is much larger, to whom we are giving what you might say is apprenticeship training, with the idea of developing them into inspectors and foremen and there, of course, the necessity for making use of good English becomes apparent. In making out reports regarding the condition of their departments and various other formal reports, a knowledge of English is necessary, so that we have included as a part of the training course, a course in English which consists largely of having the men write. They have one recitation a week during the class period, but the chief work they do is to write on topics which are assigned to them. Some shop topic is assigned to them, upon which they are requested to write about something specific, and they bring in a written report on that subject, and the report is then corrected and the work handed back to them.

The time the assignment is received they are given a printed sheet of instructions, and a folder, and they file this corrected report sheet in the folder with their instruction sheet, so that when the course is completed they have a small encyclopedia on the subject for their particular purpose.

A DELEGATE: I represent an industry which employs mostly women, and our problem is quite different from any that have been stated during the day. Two years ago we adopted the policy of only employing operators who could read and write English. Lately, due to the labor conditions, we have had to change this policy, and we are now employing girls who are foreigners and who do not even read and write English.

Several weeks ago we opened a continuation school for the

operators and piece workers, and we are teaching them to read and write English. This is, of course, an experiment with us, and I was wondering if any one had had any similar experience and has obtained any results showing that operators were more productive because they had a more liberal education?

A DELEGATE: In a survey made of New York City some year and a half ago, U. S. Department of Labor Statistics, made a study of certain industries in selected groups, in one of the New York concerns, and that information can be gotten through the report of the U. S. Department of Labor, the report having been issued in 1914 and 1915.

It found in taking this group that it was able to produce actually more in terms of dollars and cents, for the education received—not only that, but so much in excess of the money spent on the training that it was a very valuable experiment. Of course, the facts which are given in the report by the U. S. Bureau of Labor can be obtained by getting in touch with the people themselves.

A DELEGATE: We have a night school for foreigners, which has been in operation for about three months now, and I think we all begin to see the benefit of the work, answering the question that you have asked. The school, of course, has not been organized long enough to have any definite statistics to report, but we feel quite convinced that the work is proving its worth.

A DELEGATE: In a large hotel in Chicago which a cousin of mine is managing, they employ girls who are unable to speak English, and they start them in on work such as chambermaid work, and they carry on a school in that hotel. He says that after three years of doing that kind of work, he is satisfied it is a very paying proposition in the hotel business.

A DELEGATE: I would like to ask what text-books are being used, that is a question which has come up many times. I might tell you what we are using in the apprenticeship school. We use Norris & Smith's Shop Arithmetic. We also have Norris & Graigo's Shop Mathematics, but do not care as much for that as for the Shop Arithmetic. I suppose a good many are preparing their own lessons. We tried that for awhile, but think the shop arithmetic is about as well adapted to our work as any text-book we could prepare ourselves.

THE CHAIRMAN: This is a question on which I would not

care to be too specific at the present time, but the Committee compiled, as you know, a list of text-books which they think are best adapted to this work, text-books for mathematics, mechanical drawing, and mechanics. Some of these books are general and could be used only as collateral texts principally by the instructors and perhaps with profit by the apprentices or students. But it is true that within the last few years there have become available some fairly good text-books which are applicable to trade apprenticeship work.

Of course, today there are some good arguments advanced that it may be desirable not to use any text-books at all. In that case, the effectiveness of the work depends more than ever upon the personality and efficiency of the instructor. But from my observations and experience, I know that a good many companies do use text-books. Apparently you people here to-night are trying to find out which text-books are best adapted to the purpose.

A number of companies who have had schools established a number of years prepare their own texts in loose-leaf form; they think that that is perhaps the only efficient method on account of the flexibility which that form of instruction sheet affords. Each company has more or less its own specific problems to meet.

A DELEGATE: I at first thought when I started the apprenticeship school at —— that the loose-leaf idea was the only idea, because it seemed to give a better chance to work in the peculiar standards and peculiar phases of railway work, but I have lately, within the last year, gone over Mr. Hale's book, "Practical Applied Mathematics," and I can see no reason why that book cannot as a whole be used as a text-book in railway work without going to the trouble of rewriting practically the same matter. It deals with the railway trade of shop school work, and I think it covers it very well, and from my experience, looking back over the experience I have had, I do not think I would recommend rewriting and getting out separate lesson sheets for each particular company, because I cannot see that it is necessary.

The problems that come up in railway work are pretty much the same as in other lines, except for a few local changes, which can be very easily arranged for in the course of going through the book itself.

A DELEGATE: I would like to corroborate what Mr. ——— has just said, especially regarding the use of that book for railway men. I have had that book on my desk for some time, and although we have not adopted it in general use, simply because it is a railway man's book, specifically, we have gotten a great deal of help from it, and I certainly would recommend that book to any who are on the point of starting a course, or who have just started one, as it is my belief that they would find a great deal of help not only in "Practical Applied Mathematics," but also in the book entitled, "Elements of Practical Mechanics."

A DELEGATE: Any of you who started this problem ten years ago, particularly a railway problem, would have found quite a dearth in the kind of books that would fit in on that part of the problem. One on "Valve Gears," and a few hand-books on questions and answers, were intended for full-fledged engineers, and there was practically nothing in the field of apprentices. Of course, now there is a long list of material that is useful. There is an advantage in having to devise the thing. There is a certain freshness about it. You can remember in the school work, if you took the first course with the instructor, how interesting it was, because the instructor was working with you, and you were going over new ground, fresh and interesting, and you had the enthusiasm of first cutting through the woods. Probably most of you have had the experience of taking a course with a man who has been giving it twenty or thirty years. The pages are marked off in the book, and you know exactly what is going to happen, week after week, for three years ahead.

There is this thing to avoid, it seems to me. When the Big Four was putting in their work at Indianapolis, I was asked to go before the public school teachers and describe the work the railway was doing. I described it to the teachers, and afterward the teachers flocked around me and asked where they could find a text-book. If there was a text-book, there is no reason why they should not do the whole thing. There is a tendency to rely on the text-books, instead of the teacher, the personality and efficiency of the instructor, and that is one reason why I say go easy with the text-books. If you can get the instructor to prepare his own courses, with the book as an illustration, it is better; it will get to be routine sooner or later if you rely on anything but the man's originality. If you can

vary the book and put in the particular standards of the company, it is better. In a drawing, for example, we had a note that did not mean anything to a railroad boy, but when we said that it was a definite note for a certain piece of apparatus, he was interested right off, and it became specific and definite. That is the advantage of writing your own book. My company and your company may have different ways of doing things, and we might as well get the enthusiasm which comes from the specific way of doing things. It is a good sort of enthusiasm we can put into our work.

A DELEGATE: We use a combination. We have a text-book on Shop Mathematics, the same text-book as is used by a number of other companies, and that is used more or less as a reference book for the student. The lessons, however, appear on the loose-leaf supplement or the blue print, which makes the problem specific. We get a combination of the two.

A DELEGATE: I will say a word in behalf of the loose-leaf form of teaching shop problems. For the last six years we have been using the loose-leaf system, and as our course is composed of twelve terms so we have twelve separate booklets. I found it advantageous from this standpoint—I hand out one of these books, and when the boy gets through with that he gets a new book. If I use larger text-books it takes him a longer time to get through with the book, and consequently it becomes stale quicker. Likewise there is an incentive to hurry through and do more than the boy would normally do, a little like the old story of the man who contracted to build a stone fence around a certain field, and the boy said to his father, "Pop, it cannot be done in the time we have said," and when the man measured out the distance in each direction he saw it was a cinch. We found the same thing with the boys. It also always puts into the lesson the personality of the teacher.

We do not have so many of these lesson sheets printed that they will last forever; the fact of the matter is, they are constantly running out, and that means the man who is instructing in that particular term this class, and being aware that the sheets are about exhausted, is racking his brain to find fault with the text as it stands and to put into the new sheets the best he has. In addition to that, you can give the personal side which is peculiar to your own work.

I have found out there is nothing I have yet run across which will just exactly fit in and teach the boys what we want them to know.

A DELEGATE: I was glad to hear the gentleman who has just spoken stand up for the loose-leaf book. I think I can see where a text-book is designed by one railway man can be applied to another railway job, but I fail to see where a text-book designed for a railway job is going to fit the requirements of a manufacturer of telephones, with the fine limits and the close workmanship that is necessary. We use the loose-leaf books, and we get out a few sheets at a time. When the book is completed, it is not quite an inch and a half thick, but that book is composed of things of vital interest to our special line of work. I never found in all my teaching experience, either as a high-school instructor in a technical high school, or as an instructor along mechanical lines, or as an instructor along manufacturing lines, a book written by some other fellow on some other job that fitted your job—you had to revise it in some way or other, and the question is whether it is better to revise it in loose-leaf form, or give the apprentice a text-book and say, "We will skip this chapter," or, "We will leave out that chapter," which conveys to the boy at once that the text-book is wrong. Take the average boy, and to him the thing is either right or wrong. When one instructor tells him to do a thing one way, and another instructor tells him to do a thing another way, and both may be equally right, the boy will say that one instructor is on his job and the other is not. I am in favor of the loose-leaf book, kept up to date by a live instructor. If your instructor is not alive, put him out and put one on the job who is alive.

In my school, the instructor devotes all of his time to classroom work. During the two months of July and August he is free from classroom work. It is my business to see that he goes away and revises his text-book, and he does, because the first thing I do when the class is through is to tear the old book to pieces and set him to work on a new one. I find to tie up our shop and classroom instructor is one of the most essential things, and when you do that, any and every problem in the book is a definite problem which comes from the shop; it is not abstract, and it is bound to be more or less in technical form.

A DELEGATE: Too frequently we get the idea that because

a thing is printed in a book it is right. That is the thing I am trying to impress upon the boys, that no matter what you say, in all probability it is wrong, because what is right today in all probability will be changed tomorrow. The things we believed ten years ago we do not believe today, and frequently things in print are misstatements.

I will bring into the problem something entirely foreign to the matter we are dealing with. A boy said the other day, "I cannot do that by percentage." Nobody told him to do it by percentage. He said, "The other one is on the percentage basis." What we are trying to get into the boys is the ability to think and reason and judge for themselves, irrespective of how the problem is stated or where they find it. It is for them to determine whether there is enough information to make a problem or whether more information is necessary, and then to handle it as an individual unit, and solve it accurately, for the results necessary to attain at this time, although they may come back tomorrow and say, "What I did yesterday won't do today."

A DELEGATE: Regarding these loose-leaf hand-books, as I have seen them, the majority are illustrated with blue prints, and I think that has a psychological effect on the boy. They handle blue prints in the shop, most of them, and a blue print in a book means business to them in the school, the same as it means business in the shop. I think they get closer to a loose-leaf book illustrated by blue prints than to a printed text-book illustrated in the usual manner—one savors of school and the other savors of business.

THE CHAIRMAN: I believe that is a good point. I had it at my tongue's end, but this gentleman anticipated me. We have known on the —— Railroad that there is a great advantage in using blue prints rather than a formal printed page, because there is a psychological value in using the blue print, the boys appreciate it, it is more in terms of their every-day environment, the conditions in the shop.

There is one point which has perhaps not been brought out yet, and that is, there is a psychological value in using pamphlets rather than a bound book, in the satisfaction which the apprentice or student gets in building a pamphlet rather than to have a whole book. It seems to me that if he takes the lessons through the medium of pamphlets that it will be more satisfactory to

him, and he will make better progress, and it will be more valuable to him than if the work were bound. I think there may be something in that.

A DELEGATE: It was said here today that one man in every twelve in this country worked for a railway, but with the number of railway men who have taken part in the discussion, I was beginning to think it was more than that. As a matter of curiosity, I would like to know how many men in twelve work for a steel company. I represent the ——— Steel Company, and in behalf of that company's school, I might say that we have found it absolutely necessary to write our own lesson sheets.

Our situation is this—out of a force of some 4,500 men—of course, the works include blast furnaces, open-hearth furnaces, blooming mills and merchant mills—we have upward of one thousand engaged in work which is not strictly mill work, in the construction and repair departments, in the shops, and in other ways, and our seventy apprentices are classified into about seven or eight different businesses—pipe fitters, pattern makers, blacksmiths, carpenters, etc., and for awhile we had some painters, and, believe me, it was hard work teaching those boys arithmetic and the other branches. The majority of the men are machinists, either in the locomotive repair shop or main repair shop, or blast furnace machine shop, where they work on engines, or in the electrical equipment.

We early found in our experience that the problem which appealed to the machinist, for example, never appealed to the mason, and we could not make it appeal to him; and a man who was working on rolls in the machine shop would not take as much interest in the connecting rod as the fellow working on those things in the locomotive repair shop, and we found it advisable to differentiate between the teaching we give to the man in the machine shop and the man who works twenty rods away from him in the locomotive repair shop. Our procedure has developed into this form—we gather all of the material that we can—we have a great number of practical text-books that we have been able to get, and I have been busy during the spare moments of today hunting out the new ones among these technical exhibits—and from these we take the things which apply directly to our men's needs, and that makes it necessary, of course, for us to rewrite the matter, and at the same time we translate

it into terms of our shop, because while you can teach a mason exhaustively concerning arches and the way they must be designed for strength, and how they can be put up, the shape of the forms that go under them, yet if you take some specific arch, for instance, the arch roof of the new furnace, in a twenty-two inch mill, maybe, which the man worked on last week, or possibly only the day before, he takes ten-fold interest in that particular subject that he would if you spoke of arches as a general subject. The same thing applies to practically every other branch of work we have.

Fortunately, our classes are small, the average is eight or nine to an instructor, and the instruction is almost personal, and while we try to keep the men grouped according to their progress in the course of instruction, yet, at the same time, in the same class, we may have masons, pipe fitters, blacksmiths, etc., so it is necessary for us to treat every man almost as a class by himself, and that, as far as we are concerned, makes it absolutely necessary to use the loose-leaf method in constructing our text-books. All the other advantages of making short jobs or short heats for the men to cover were to be realized, and it is more a matter of necessity with us than anything else, and we certainly have to thank all of those men who have written text-books for some particular shop or organization, because we have drawn from all of those sources, and our text-books when they are finished will be really a composite of all of those which have been constructed before.

A DELEGATE: We use the loose-leaf books and also a text-book, but the text-books are supplemental to our loose-leaf system. In mathematics, we have 519 Shop Problems in Mathematics in loose-leaf form, the problems having been gathered from various instructors, and as each boy is taught as an individual, there is no class work whatever on our road. They are all furnished with one of these problem books, and on an average will spend fifty per cent. of their time working on mathematics until they complete that book, and that is usually about the end of the first year. The boys who take more than mathematics go on, and we are using one book called, "Shop Problems in Mathematics," by Breckenridge-Mersereau-Moore, and another one called, "Holton's Shop Mathematics." Of course, no school is properly equipped without Mr. Hale's book. I will say that

Holton's book seems to be taken up with greater interest by the apprentices in our territory than any other, due to the fact, I believe, that it was worked out by a shop man, who was also a draftsman, and each problem deals directly with some problem that he encountered during his work as a shop man. We do not make that as compulsory as we do our others.

The loose-leaf form of instruction has to be finished by all the boys. The others are more of an elective proposition, and if they do not take to it very readily, other work that deals more directly with their mechanical studies is taken up.

Our drawing is all loose-leaf work, and is revised from time to time, and new sheets added. We start in with very simple details, and pass along gradually by going into more finished work, and all of our treatises on various types of shop mechanical work are in loose-leaf form. We assign these treatises to the boys as they are assigned to the various lines of work in the shop. We have the various classes of apprentices—machinists, boiler makers, cabinet makers, painters, blacksmiths, coach carpenters, freight-car carpenters, etc.

The problem sheets first mentioned are given to all, that is merely a preliminary training. After that, each apprentice is assigned studies in mathematics and we teach his own particular line. The drawing is so arranged as to teach the student with regard to any trade that he has gone far enough along in to understand the principles of mechanical drawing.

At the present time we are working on a book on mathematics to apply directly to the boiler maker. It seems that nearly all of the corporation schools and trade schools have directed their efforts to the machinist, and neglected every other trade. While with our seven or eight years' experience we now think we have the machinists well under way, we have made plans to include the boiler maker, they are now included, as well as other trades, and that is the point we must go after at the present time,—to get the interest of any particular worker, we must provide him with something he is interested in, which he knows was arranged especially for him, instead of having him feel that he is working on something designed for someone else.

A DELEGATE: The original apprenticeship schools and the modern apprenticeship school movement, so far as I know, all started in with the idea that arithmetic was one of the funda-

mental things, and drawing the other. These seem to have been the two things agreed on, in the first place, and since then they have included mechanics and English, etc. As the average man in the trades—machinists, boiler makers, painters, etc.—how much actual drawing does any one of these men do? Have any of you run up against this proposition—whether the pace that was set in the first place on the drawing was not too swift? Is it necessary to carry all of these fellows as far as they were carried, in the first place, because no one demonstrated what was needed?

A DELEGATE: I do not know how far the drawing has been carried in some of the schools, but in our school the mechanical drawing is given for the purpose of enabling the boys to read blue prints. I do not know whether we are going at it in the wrong way or not, or whether we should take the blue print and teach it from that angle, or not, but we thought if the boy knew how to read and was taught and trained and saw how different views were developed, and having developed them himself, that would enable him to read the blue prints, and that is the purpose of that part of the instruction.

A DELEGATE: Regarding this question of drawing, after I got home from the convention of two years ago, I had a little visit with Mr. ——— of the Union Pacific, and Mr. ——— is strongly of the idea that we should not emphasize too much mechanical drawing, and after talking with him, I think he is right.

I was so much impressed with what he said that when I went back to get up the course now used on the ——— Railway, I tried to get away from formal mechanical drawing, and did it in this way, and we find it quite satisfactory: We have, in addition to our mathematical courses, which deal purely with arithmetic and the application of arithmetic to the trade, what we call drawing courses, and these are so arranged that in the case of machinists the first part of that course will be problems of such a nature as are peculiarly adapted to that trade, such problems as figuring cutting speeds, change gears, and all that kind of thing. Then, after the problem work is finished, we take up the subject of reading blue prints, but we do not take it up through the medium of mechanical drawing at all, but the blue print itself.

I remember the first print we had was just a plain drawing of an ordinary truck wheel, with six spokes in it, and a set of questions that go with that print are asked, to be answered from the print itself, and then they work on through more and more difficult prints, a lot of questions being asked in connection with each one, and then we use the medium of the blue print to take up the point of sketching. For instance, we will take a print of what we call a steam-chest relief valve on the locomotive and require the apprentice to pick that print all to pieces; in other words, he must make one sketch showing the body of the valve, and another sketch showing the lift of the valve itself, and another sketch showing the cap of the valve. That is all shown in one drawing, one combination drawing or view, and he has to pick it to pieces. In doing that, he is not only learning to read the print and learning to sketch, but he must pick it out and show the views in their correct position, and put all the dimensions down. A large number of such exercises as that are used to introduce the idea of sketching and reading blue prints together, and the beauty of it is, you are putting into the boy's hands the print which may be sent to him in the shop some day, when he may be required to make it into a lathe or milling machine, or some other machine, and we go over that print showing the parts in the erecting diagrams, the rods of steamboat engines, and things of that kind, a large general plan showing how these things are assembled, and they apply the mathematics they learned earlier in the course to the prints or problems that are suggested or covered in those prints.

I think that does away very largely with formal mechanical drawing, and accomplishes what the man needs, that is, the ability to read the blue print and to make sketches. Where we find the boy has talent for mechanical drawing, we do not hold him back, he can go on and undertake as elaborate a mechanical drawing as he cares to, because we can always use such boys in the drafting room, and we need to keep supplies of that kind.

I think that is a departure from the Santa Fe and the New York Central systems, and after an experience of a year and a half I should say it works out satisfactorily in our case. We take the set of blue prints called for in the different grades, one for each trade, and bind them together in a book, and the boy can get at them readily.

A DELEGATE: I ask if they have the sketching before they get the mechanical drawings? Ordinarily, in school work, where you do a thing like that, they give a certain number of exercises in mechanical drawing.

A DELEGATE: We do have a few sheets which illustrate the elementary principles of mechanical drawing, that is, plates or views, and use the different kinds of lines so that the boy will understand the different things on the drawing, such as the center line, measurement line, hidden lines, etc., as just the principles and important features of mechanical drawing, but the rest of it, except for these introductory sheets, is taught by means of blue prints entirely.

A DELEGATE: Do you have instructors to instruct the instructors who teach blackboard work and sketching? In our course one of our strong points, and the thing that we lay the most emphasis on, is free-hand drawing, and we have the instructors so proficient in it that they can simply sketch what they want to teach and do it rapidly and at the same time correctly. In the shop work that you have, do you apply that plan, because the teacher can demonstrate so clearly if he has a blackboard?

A DELEGATE: Speaking from my own experience, I would say that I do not use the blackboard very much, because it must be remembered that the class is composed of, maybe, a half-dozen or seven or eight different trades, and what you are explaining to one boy is of no interest to a half-dozen others, and for that reason I go from one to the other and explain to each one his own particular problem, to show where he is wrong and what he needs to be told to do it right.

A DELEGATE: What are the ages of the boys and what are the hours of work?

A DELEGATE: Because of a law in California, a boy under eighteen years of age cannot work over eight hours. The ages are eighteen as the minimum and twenty-two as the maximum.

A DELEGATE: I would add something to what Mr. _____ has just said. I adopted a system that is very similar to the one Mr. _____ used, only where his is a tearing-down process, the one I used was a building-up process. We started off this year by having the entire class work out their problems with freehand sketching, but we find it does not work in the case

of the beginners. We find that they ought to have some knowledge of mechanical drawing. There were twelve boys in the class, and I could give the class a simple bracket to draw on ordinary paper, freehand work, and you would get twelve different interpretations as to what the bracket looked like. If the thing was a rectangular bracket, twelve inches long on both sides, and they were to reproduce it full size, with their own idea as to what it was, it would vary anywhere from three inches up. It is surprising the difference you will find, and I think for that reason we should use the instrument mechanical drawing first, and then go into the freehand sketching.

Take a simple machine. In our case we used a little blower fan, and that was brought into the class-room and the boys pulled it apart. They brought their calipers and measured the details and made a series of freehand sketches, including the dimensions, so they were complete. They labeled as many parts as they saw fit. When they had finished that, the fan was taken away from them, and from the details which they had made freehand they built and assembled a fan with the instruments they had. It seems to me that in doing this, when they get out into the shop and have very much more complicated problems to solve, they will know why things are so. At the same time, they are getting their experience in freehand sketching, which is of value to any machinist, especially when he makes his report.

A DELEGATE: The practice of the ——— Railroad has been to give the boys some work first with the instruments, some mechanical drawing, so as to give them the quantitative idea, just sufficient mechanical drawing to give them some idea along that line, and then put them on the sketching work. With some classes that work was carried on by sandwiching sketching work in with the mechanical drawing work. For example, we would start in with two simple plates on mechanical drawing, using the instruments, and introducing as a third plate one which showed what was wanted, that is, the device wanted, and the student was required to make a freehand sketch of a comparatively simple object, perhaps only a cylinder. Then, in the fourth place, he might be given a somewhat more complicated object to sketch, and then another plate of mechanical drawing, representing a progress over the second plate, etc. By sand-

wiching the mechanical drawing and freehand sketching in in that way, we felt that we were getting good results.

A DELEGATE: Since Mr. ——— left the ——— Railroad we have revised several of our plates. For the first five plates we are now using a perspective or isometric view together with the regular mechanical drawing. In this way we show the boy the object as it looks in the picture, or as he is looking at the object lying on the benches. We have found that we obtain very good results by that method. We have started in, in the case of the first plate, with a very simple view of a drilling block, and the next one is a combination of straight lines and curved lines, going from the simple to the harder problem. I sometimes thought with that sketch we did not get the results we should get. I have used, in some cases, a blue print, and had the boys pick out the different pieces in the sketches, and from that make the drawing. I found that we got very good results in that way.

A DELEGATE: As to this subject of sketching. Now, we know that all progress is primary from imagination. I cannot see what is wrong about letting the fellow go in wrong by making a wrong sketch. That shows me he has a wrong conception, his imagination is evidently at fault. Every time you do a thing right, you are practically making no headway, you gain a little in speed, you may be cutting down the time, but as far as progress is concerned, in the final analysis, I cannot see it. I would say at all times I want my instructors to put the boys right up against it, and when they get stuck we will set them straight; but it is certain that you cannot deal with the boy in a school, or your own child, for that matter, and tell him always the right answer, and he would not want it.

I believe one fault with the public schools today is the fact that they are killing initiative. Every move is usually set and doped out to the students, so that if they do not have a schedule to follow, they are lost. For that reason, I believe in having the boy sketch an object as he sees it, and I will see, before he gets very far, that he sees it right. That is the bases on which we are doing our teaching and the basis on which he is getting his work in the shop. I ask the fellow in the shop, "How are you getting along?" He replied, "Not learning a damn thing. I have not started anything for a whole week." If that is his

measure of getting along, there is evidently some truth in it. How many of us would be content on our own jobs if we knew exactly, from week to week and month to month, what was going to happen? I would not have been here tonight if I knew what was going to happen. My imagination brought me here. It is probably out of shape, in some respects, and I am perfectly willing to have it changed. I believe that developing the enthusiasm of the boy along that line will be for his ultimate good more than anything else we can do.

A DELEGATE: Speaking of sketching, we have in the steel works about twenty-two different departments, I may say, and I have given thought, quite a good deal of thought, together with the heads of our departments, to the subject of sketching. We have found that is most essential. I have found that most boys can take a sketch and do something with it. We have them sketch mostly from metal. We have one hundred from the machine shop, thirty from the electrical shop, and others from the crucible steel mill, the pipe-fitting department, etc. Take the open-hearth boys and ask what sketch you will give them. I came to the conclusion that sketching would not be so essential to them as taking a cross-section elevation of a furnace, and have them draw it out and show the retort, the action of the gas, etc. In our press plant, where we make the armor plate, we have them make a perspective view of the ingot in its different forms. We have them take the billet in the finished blue print, etc. We take the hammer boys and have them make a freehand sketch of some of the implements with which they are familiar in the shop, and they get a better knowledge of it. When the forgers are handed a piece they are accustomed to have a sketch, and when they make the sketch they get a better general conception, and so on through the different departments. Take the blacksmith boys, for example; there are as many developments possible there as anywhere else, and in the crucible plant I have them make plans similar to the open-hearth furnace, or the layout of the whole crucible plant. Take the machine shop boys: I have started a course of combined mechanical drawing and mathematics. I have them make a sketch of a lathe, showing the tool stock, and a piece of work in it. I have them put the lead screw on, showing the change gear, and they get their problems right on that sheet. They

have the sketch before them, and answer the problems. So in the hammer shop, I have the boys figure out the heat loss; they have the ingot, the shaped piece, the scrap and the finished piece; and so in my opinion freehand sketching should precede mechanical drawing.

I know in certain high school work we have been engaged in, we had boys come there and do mechanical drawing. When you send a man out to do a repair job, you cannot send along a drawing-board and a lot of instruments; you give him a pad and pencil, and when he comes back he is supposed to have on the pad a sketch showing the essential measurements, and he is supposed to transcribe this onto a sheet, so that if his original sketches are wrong his finished drawing is wrong. My opinion is that the freehand sketching should precede the mechanical work.

A DELEGATE: In a technical night school we have a good many apprentices, about twenty-five per cent. mechanical apprentices, and about eighty-five per cent. of electrical apprentices, from the Westinghouse Electric and Manufacturing Company. The work is laid out to give these men a course in fundamentals, starting in with drawing and leading up to the advance mathematics—electricity, steam, mechanics, etc.

Along with the drafting course we give the boys when they first come in, we have a course in pattern-making, and foundry work, not to teach these men tracing, but to acquaint them with the different operations that go on in a commercial plant in using the blue prints that they make. We find that this mechanical work, the manual work, that we give along with our mathematics adds a great deal of interest to the work, and that we have no trouble in getting the boys to stay on the work and take extra work home. Besides the nine hours a week these apprentices put in at night school, they have about nine hours' home work besides.

It was mentioned this afternoon by one gentleman that there was some difficulty in getting apprentices to do home work. We find very little difficulty in getting the apprentices, who choose to take up additional work in the night school, to do additional home work besides their night school work. Of course, we do not make it compulsory to enroll in the night school work; it is entirely optional with the apprentices, and therefore they are a

selected group of men who are taking every opportunity to increase their knowledge. As a rule, these men when they get through with the four night school courses are pretty well prepared to take up executive work of one kind and another, such as shop foremen, general foremen, inspectors, limit setters, etc.

In connection with loose-leaf note-books, our experience has been that they are a very valuable asset. We do not use the loose-leaf system entirely, but in most of our courses we have loose-leaf note-books that are really the fundamental thing in the course. As a background, we use some text that we choose as being a good supplemental text-book. In our electrical laboratory course, we have prepared our own notes, and all of our work there is of a commercial nature—testing machines. For these loose-leaf note-books we use dermatype stencils, and we find that these stencils can be used for drawing, and we can put sketches on them for drawing just the same as on drawing paper. If there are any other men who have had experience with apprentices in night school work who could give us some suggestions, we would be glad to have them.

A DELEGATE: The question of sketching and blue print reading is of twofold interest to me. All our sanitary pressers make and stick up their pieces from blue prints. Blue prints are also used in our modeling and mould-making department. For that reason we have a course in freehand drawing, sketch work only, and blue print reading, no instruments in the hands of the men. From that standpoint, I am glad to hear the remarks in favor of freehand sketching. I think a man should have an intimate knowledge of the workings of the piece he is making, and being able to sketch it is a great advantage to him.

I also represent the Trenton School Board. They have adopted what they call the "Six and Six Plan," three years in junior school and three years in senior school, for high school education. The boys going into the junior school are given freehand sketching without instruments at first.

Our system there has been fathered by the President of the Board, who is a native-born German, and he is heartily in favor of the section drawing, and he made it freehand in spite of the errors which might creep in, as a better training for the boy.

A DELEGATE: I will bring up another question for discussion. Of course, the ideal curriculum is one which is so arranged

that practically everything which has gone before is used in the new course, and I should like to hear some discussion as to what success supervisors have had in getting their teachers to use everything which the boys have had up to date in the new course, or whether they simply stick to the new course and let the boys do what they will with what they have learned in the previous course. I have found in my own experience that after one or two terms the boys had forgotten almost everything they had learned in the previous courses, and I have tried to influence my teachers to use everything which they have used and taught the boys. Of course, that necessitates entire knowledge of the curricula.

A DELEGATE: One method of getting instructors to go back to things which have been previously taught is to make it so that they have got to go back to tie up those things with the new problems, and then you are sure that the instructor goes back once anyhow before he leaves that subject finally; but if the problems are repeated with slight changes or few additions, making them a little harder, the working of that repeatedly, over and over, by the supervisor, is bound to include more review than advance, and it will be a constant review all the time. It seems to me that is a matter which should be considered in laying out the course.

A DELEGATE: Take it from one who has been through all departments and branches of this problem, that if you spend your lunch hour in thinking and discussing what you shall teach your boys in the school-room, and the other twenty-three hours and a half a day what you will give them in the shop, your troubles will be pretty nearly ended. If the shop work was as easy as the school work, I would go out and join a golf club—I would not have anything to do.

My experience is, when you teach them in the school-room you should adopt something to meet your immediate needs. What the General Electric Company or the Westinghouse Electric and Manufacturing Company use for their apprentices would not suit your needs in a railway shop. You must adapt your school-room work to suit your immediate needs, and there should be mighty little of that.

As far as drawing is concerned, the most difficult thing, I think, to do is to keep our instructors, the technical fellows,

from a class of drawing which is too elaborate. They can get up very nicely and project a shadow of a three-inch ring made out of square iron on the horizontal and vertical plans. The company is not hiring fellows to project shadows on different kinds of planes, we want them simply to make a sketch so that the boys can make a device from the sketch. I cannot help expressing my feeling on this subject that we are wasting a good deal of time worrying about what we shall teach apprentices in the school-room.

I have about come to the conclusion that the manual training, such as we have in our public schools, is a failure. The time and money spent in teaching manual training in the public school is time and money wasted. If the public school would adopt some means of trade schools or continuation schools, whether it is Cincinnati, Pittsburgh, or St. Louis, or Boston, I do not care which city it is, the taxpayers will save money. All we ask on our road is that the public school will teach the boy thoroughly the general elements of arithmetic. We do not care about his having a knowledge of algebra or geometry. We will teach him about as much of that as the painter or boiler-maker needs to know. In our school-room work we do develop our draftsmen, but the young fellow has to finish the two hundred plain drawing lessons before he can do any other work. After he finishes those lessons, and his job problems, then we give him some other work to do. We supply all the draftsmen in our drawing-room from that talent. We graduated an ex-blacksmith from the drawing-room.

We do not employ any more college graduates as draftsmen. You can go out in this city and advertise for four draftsmen at \$60 a month, and I venture you will get one hundred and fifty applicants before sunset tomorrow. Go out and insert an advertisement in a paper for one hundred machinists, and I will bet you that you do not get two full-fledged machinists this present day.

As I said this afternoon, we are devoting much of our time to the actual shop work. We had a meeting of our instructors, fifty of them, on the ——— system, at ———, recently, and we had a three-day session. We had sessions of about nine hours each day, with a half-hour intermission for luncheon, and of the time for luncheon about two-thirds of it was devoted

to the shop features of our work and the other one-third to the school end. We would not allow the school instructors to talk much on that. I wanted the shop instructor to show wherein the school instructor could help him. It is possible that our school instructors may be smarter fellows—they think so and undoubtedly they are—I think they are better educated fellows, most of them are college-bred men, and they served an apprenticeship with us, and ordinarily they are more intelligent fellows than the average shop instructors, and that is why I spent the greater amount of time with our shop instructors than the school instructors.

I do not care what you say about the apprenticeship system, unless you devote a great majority of your time to the actual shop instructors of the apprentice, your system will be a failure.

As I said awhile ago, in regard to the teaching of drawing, the tendency of the average technical man who teaches drawing is to teach the students drawing that is too technical. We make the drawing as simple as possible. We do not have much use for these projections of shadows. We want the men to be able to make a sketch and go out into the shop and interpret that sketch into actual work.

I am sorry that this afternoon this Committee on Trade Apprenticeship Schools sought to evade the responsibility of holding the men in service after they completed their apprenticeship. One of our graduated apprentices quite recently left the ——— system, and I had to make some explanation as to the reason. I inquired of the local instructor as to why the boy had left the road. Our Vice-President, as busy a man as he is, with all the responsibilities of operating that railroad, wanted to know why some young fellow quit, and I must give some sort of an explanation. I have had backing out there, but I will leave it to Mr. ———, who is used to western railway methods, that unless a man can do something, they are not going to back him for very long; they may back him for six months, possibly for a year, but after that they will let him out. I suppose I have the least education of any man in this room so far as scholastic or academic attainments are concerned. I had a practical education. My hands still have callus spots on them from handling shop tools years ago. I do not decry education, but still like to get the educator to do his best to

teach our apprentices everything that is possible, but we confine ourselves principally to what is actually needed.

As to the rate paid apprentices, I was more than mortified by thinking these eastern people would try to discourage the boy who has spent four years in trying to make a man of himself, and then say he is not a man. I felt when I heard that like getting up and going home. I did remark to one member that I thought we were not learning anything here. We spend a long time discussing problems, and after the problems have been discussed for three years we do not advance one step. One of my instructors said: "We threshed these subjects over seven years ago and discarded them as being useless."

A DELEGATE: I have known Mr. ——— for a great many years. He says that he gives his apprentices two hundred drawing sheets. That, to my mind, is a little like the arithmetic. We have been, for a number of years, trying to throw out a lot of problems in arithmetic. Now, fortunately for the corporation schools in America, the industrial schools, and the railroad apprenticeship schools, I think we are coming to a point so that each of us is trying to arrange these matters to help each other. What Mr. ——— said about manual training schools, and about continuation schools, may be true in the west or in the east, but we give the boys the manual training as an educational problem, not as pre-vocational. We do not give it as a problem when it comes to teaching the trade, but we do this—we give these to fit the boy, whether it be for a railroad corporation or for any of the industries, to fill his place in life more acceptably. I would like Mr. ——— to tell us if he could not accomplish as much with one hundred drawing sheets as with two hundred drawing sheets, in the case of the boy he is trying to train? I think that number could be reduced, with advantage.

I never knew a boy, an apprentice, with real red blood in his veins, who wanted to stay with any corporation longer than a year or two after he is out of his time. It is experience that he wants, and one reason why we try to shift the apprentices in the east is in order that they may go out and get experience and then come back to us. My principal question is—could not Mr. ——— accomplish just as much, perhaps, with one hundred drawings instead of the two hundred he said he gave the apprentices?

A DELEGATE: I might mention that there are very few boys who finish these two hundred drawings.

A DELEGATE: That is what I wanted to show; there are very few of us who finish the arithmetic, because the live instructors will skip a great many of the arithmetic lessons. You put them in the course of study you give these boys as special work, we do that, if it is a live school or corporation, and we have these laid out tentatively for them to take if they want to. If they have two hundred, all right, they can skip, possibly, ten at a time.

A DELEGATE: There are very few of them that are over thirty- or forty-minute lessons; they are short lessons, and they advance through them very rapidly.

In regard to the shifting proposition. The instructors in our schools communicate with the mechanical superintendent or the master mechanics in regard to getting the boy started upon his graduation, and I might mention that at the graduation of every apprentice on our road when his diploma is given to him it is given by the master mechanic or shop superintendent in person, with a little talk along with it, with the object of advising him that the ——— Railway is a big railroad system and if he has the "boomer" tendency he can find a place on the road at some other point. If the boy has home ties and wishes to remain, he can stay at home. We find out beforehand those who wish to move away and those who wish to stay, and if by reason of necessity we move those who want to stay, it is with the promise that they can return at the first opportunity, and we keep that promise. On that account, on one territory in which the employed men remain in the service an average of five days only, based on the total number employed for five successive years, we have been able to hold our graduates with a one hundred per cent. record for two consecutive years. We have the boys at some points on the road where we have never been able to hold the men at any time before, and these boys will stay. We have promoted on some divisions twenty-five per cent. of all the graduates who passed finally. No officer, in any capacity, is hired from the outside on the ——— Railroad. They are all promoted. I am sure if any of us tries to propose a scheme by which the apprentice would leave the company for the purpose of securing experience, we would have to leave to get some experience, too, and I doubt if many of us would return.

Mr. ——— wishes me to explain the method of efficiency on our road. We have the Emerson system of efficiency, and I hesitate to say much on it because most of us do not have much of it any more; it has been rehashed and changed around; but the records are still kept, and they are used to measure a boy only as one boy compares with another on the same line of work. We have complete records from the time he enters until he graduates, and at any time it is necessary for any one, not personally familiar with the boy, to look up any part of his record, he can refer back to it and compare his efficiency at that time with the efficiencies of all the others on that particular class of work.

We have another scheme in the matter of promotion, which I will mention, and that is in finding material for promotion. We have what is called a special course; it is a supplemental course of twelve months in which the time is divided—four months in round house work, two months in the boiler shop, two months on the freight car track, two months with the road foreman of engines, and two months with the inspector in the round-house. That is usually given at the end of a three- or five-year regular apprenticeship course. The boy is paid about twenty cents an hour additional to his regular wages for the amount of time he laps over the 12,000 hours. The boys are selected, one or two at each point, depending on the size of the shop, and depending on possibly the executive ability, loyalty and characteristics that may tend to separate the progressive boy from the others.

A further scheme we are now using is to select from each grand division one machinist for service for six or seven months at the Baldwin Locomotive Works, at which they are placed now as assistant department foremen, being transferred from month to month to the various departments of the works. We also send a few men to the works of the Westinghouse Air-Brake Company for instruction in that line of work. We have had some cabinet and coach-maker apprentices at the Pullman Palace Car Works, and we also provide for the boiler makers in the same way. They go to works in their line.

All that is done for the boy who is trying to develop himself for future promotion.

A DELEGATE: You are sending these boys out, but if you

continually have them instructed and trained in the Santa Fe schools and shops, you never get any new blood. If you tell me to continue the same blood, without getting fresh supplies of men who have had experience elsewhere, is going to be a proficient system, I can say to you that you are mistaken; but you admit that proposition by your own practice of sending these people to the Baldwin Locomotive Works and the Westinghouse Air-Brake Works, and that is a good scheme, but if a corporation does not get new blood, it is not going to live.

A DELEGATE: Our reason for promoting our own men is this—that the former system of bringing new men changed the entire organization. Regardless of what the officers did, the master mechanic on the division naturally sees it from the other point, and will bring in his own organization, without trying out the men who might be available on the road. These men brought in from the outside bring with them certain ideas, which changes the standards of the roads, because they will adopt the standards they have been used to before. Our aim is to work with the Santa Fe standards in respect to all of our equipment.

This new scheme of not hiring any men from the outside has been in use now for about four years, and we have made more progress on the road in many respects in these four years than we did in the twenty-five years preceding, with the other system of bringing in new blood all the time.

The method of sending them to outside points for training is as much a matter of getting a boy over his timidity by having to deal with his former associates immediately after graduation as it is for any other purpose. He comes back after a few months' association with strangers, and is over his original stage fright, and can go ahead and handle men where before he would have fallen down.

A DELEGATE: That is a step in the right direction, because the boys are finding out what the other people are doing.

A DELEGATE: You will realize in railway work it would be impossible for us to introduce the Baldwin Locomotive Works in any railway plant—that is, the manufacturing plant. We are trying to put it into practice in connection with repair work, but we are not sure that we can do it.

A DELEGATE: I do not know anything about railroad work, but, generally speaking, I know how narrow you can become

if you follow out the ideas of one corporation. Some years ago some one made the statement that the corporations did not care anything about the people generally, but that this industrial educational work was purely an economic condition for the corporations. We all know that, but by taking one branch of it, and broadening out, I do not care what it is, it seems to me we ought to get somewhere, and I think we are doing it. I think the way you are organizing it, you are getting better results.

A DELEGATE: I would like to say that I think the ——— System is unquestionably right in trying to hold their men on their own road. The ——— Railroad is suffering today from not doing that very thing. The scope that is within the various shops on a large railroad is sufficient to make a well-rounded mechanic, even if he does his moving within the company's service. When I served my time, when a boy reached the end of his apprenticeship he expected to be fired, because they did not want him to stay with the company after he was out of his time. As I look around and see the results of the two systems, I can see those men who are failures are those who played the "boomer" for years, and today they are broken down physically, and are wanderers, and are not good, reliable men. There is where that idea fails, it is that "boomer" idea, the shifting from one place to another, gets these men in the habit of never staying anywhere very long, and there goes with that the bad habits that they so often get into in shifting about so much. It is a noticeable fact, a particularly demonstrable fact, in railway service, that the "boomer" is an undesirable man to get into the organization. Where you follow a system which provides "boomers," you go at it in the wrong way. You must hold the men in the organization, even at possibly a sacrifice to what little experience they might get from the outside roads. It pays the railway company to keep its own men.

The ——— System is unquestionably right in paying the men full wages when they are out of their time, as they are worth it, as surely as the sun rises and sets. The road is following a far-sighted policy in holding the men in the service.

I had some experience recently in trying to get the full rate of pay for our boys. We have a regular schedule which has a paragraph in it taken from the ——— Rules, about the payment of full wages to our apprentices, and naturally as soon as

the boys get out of their time they want to know if they are going to get the full rate. I have experienced much embarrassment in telling them I did not know, and rather doubted it. I have fought for it, but have not succeeded in getting the full pay for any one of them. Being a shop man, I can compare what they do with the work of the other men who get the full wages, and they are worth it.

It is desirable for the railways to hold these fellows in their own service, if they want to build up an organization. The idea of going out to other places is all right in theory, but apparently it does not work out on the railways, as those who follow this practice become uncertain quantities and you cannot depend on them.

A DELEGATE: Has the speaker made any comparison of the boy who has had training in the public schools and those who have not, as to their fitness in becoming apprentices?

A DELEGATE: No, I never have.

A DELEGATE: Has the previous speaker?

A DELEGATE: Yes. We have a manual training school at my headquarters, and with the exception of one case, not one who has come from the manual training school has shown exceptional adaptability to our work, because of his instruction in the manual training school. We take the boys fresh from the farms, in many cases. In the case of one boy who came from the manual training school, owing to the instruction he received, before the system was adopted of teaching them the fundamental ideas, it took me a long time to get out of his head the ideas he had obtained at the manual training school, and it took some time to get him changed over to adapt him to our methods, and a green boy whom we had taken in at the same time had beaten him in the advancement he made.

I could draw another parallel on the same line. In our testing department our engineer of tests is using men, not only graduates from technical schools, but also taking in a great many machinists and other men of practical trades, starting them all alike, and while he is an engineer himself, a man who has taught a good deal along engineering lines, he told me personally he has found better results in some cases from the machinist or other mechanic he has taken in and trained in the particular line of work he wanted than in the case of a graduate, due to

the fact that it took too long to get the graduate changed over to the equipment he had to work with. The other man was brought up to work with it. We have to teach the boys who are graduated from training school to work with our equipment, and by the time they get to work with our material the green boy has beaten them.

A DELEGATE: I did not mean graduates.

A DELEGATE: I am considering public schools and high schools.

A DELEGATE: You say in some cases. Was that in the average case?

A DELEGATE: Yes, speaking of one particular line.

A DELEGATE: Going back to that question of what you should pay the apprentice when he has completed his course, I want to know what you mean by the standard wage—do you give him the same wage a man would get who had been ten years at the trade, or where are you going to set that figure?

A DELEGATE: There is a prevailing wage in every shop, which has been the custom for years—men have been paid a standard wage—and unless a man happens to operate a machine or do some work of a particular character, which requires extra skill, he was paid that standard wage. That is the custom and practice of our industry, certain jobs command certain prices in certain localities, and there is not much prospect of advancement unless a man gets into some special line of work in which he is particularly skilled, and able to handle it in a skilful way, and then there is increase in the compensation. The prevailing wage varies in different localities and for different trades.

A DELEGATE: The ——— Company has a minimum wage for apprentices of seventeen cents an hour, and when the apprentice is out of his apprenticeship, he is given the prevailing wage of the job he is put on. If our apprentice is able to do work equal with the regular workman, he receives the full wage paid to workers on that job, and we are glad to pay it to him. We do not encourage him to leave our works, and if we did that, the whole system of welfare work would be wrong.

That is what you have the welfare work for country clubs, the bonuses and all these things to hold your men, and the ——— Company saw that thing about ten years ago very strongly and are spending a good deal of money along that

line, in order to hold their men. We do not encourage our apprentices to leave, but want them to stay with us.

A DELEGATE: I want to say something with reference to the question of the efficiency of a boy. In our estimating of an apprentice, we do not care much about his schooling, beyond the fact that we look very carefully into the opportunities which he has had to obtain instruction. If he is a boy who has had unlimited opportunities for securing an education we are very strict in our requirements, but if the boy did not have many opportunities, if he had to go to work to help his mother, or if some such condition influenced the fact that he had not attended school, we take him in and give him an opportunity. Under no condition whatever do we allow the apprentice to be dismissed on account of failure in school-room work. He can be as backward as you like in school-room work, as long as he keeps up his shop work, and if he does that we let him go along.

About every thirty days the attention of the shop instructor, the school instructor, and the general foreman is called to that new boy, and they form an opinion as to his talent and as to whether he will make a good apprentice, and at the end of six months we have regular meetings of the Apprentice Board, the general foreman presides over that, and all his department foremen and every shop officer who has anything to do with that boy, stop work and go into the general foreman's office and have a regular court to pass on the boy's qualifications to continue his apprenticeship.

Lots of boys come, too, on account of their parents working for the company; they make good money down there (our shop men really do make good wages), and they want their boy to come in. The boy probably thinks he ought to be a doctor, a lawyer, or some other professional man, and for that reason he does not fit in well in the place of an apprentice in a machine shop. We soon find out the actual status of the boy, and we recommend to the employing officer of the shop that he either be continued in his apprenticeship or be dismissed. It is not left to any one man to make this decision. This Apprentice Board passes on all matters with reference to the disciplining and standing of the apprentices, not only that, but every six months during the period of his apprenticeship and until the time he completes his apprenticeship, the same Apprentice Board

passes on the same young man's qualifications. The Board not long ago refused to graduate a boy, because about nine months before the end of his apprenticeship he laid down on his work, acquired vicious habits, and we criticized the master mechanic for not getting on to it. We let him finish his course, but did not give him a diploma.

A DELEGATE: It is just that kind of thing that these meetings bring out. I feel sorry for that boy who was held by a corporation like the ——— System for a number of years, and then could not conscientiously be given a diploma. I think in the main they made a bad job out of it. There are other places in that system where the boy could be placed, where he would fit in, and if he had his backbone stiffened up, he could go on and do what Mr. ——— wants him to do.

Those are the special cases here and there that we hear about but in the school work we are up against that most of the time. We must decide in a little while whether this boy will do this or this boy will do that. We have got to do that. If we produce men not fit, the corporation does not want them. The apprenticeship system shows the same thing. The ——— System does not want them.

I am glad to have been in this meeting, because it put something in my mind—what I have always believed—that we are trying to do certain things, and that the road or the corporation or manufacturing concern are doing the best they can for the apprentices, but at the same time in one case, as Mr. ——— states, they want to hold the apprentices on the road, and, if the corporation is large enough to give them all-around training, they are all right, but I would not want a boy in my employ if he had no other experience. Bankers train boys in different banks. The department stores drill the boys and send them away to get different viewpoints. If the boys can shift to the different departments on a railway as large as, say, the Southern Pacific or the Santa Fe, that is a different proposition. When you get down to what we are doing, and the chances that a boy has in life, it behooves all of us to have him fit into the right peg.

A DELEGATE: I want to ask one question. Has any one had any experience with the divided apprentice system; that is where only a portion of the boys are selected and given an opportunity to do the school work, special training, and where

the other boys are simply left in the shop and given shop training only? Has any one any idea what the difficulties of that system would be?

A DELEGATE: I do not know whether I can answer the question in full or not, but at present we are starting a course for tracing, drafting, and instruction in filing, with a view to giving file boys, mail boys, and office boys some instruction that will assist them in their development in the future. I did not say any one had to go to the school. I went to the engineering offices, after getting approval on the scheme, and asked two boys out of that office to go into the class. It has been running four weeks now. There are about forty boys in all that we can draw on in that class. I do not suppose it will be long before we will have the thing running in good shape. I will look over those that are left and will know whether it is worth while or not.

A DELEGATE: Have you rejected any that applied?

A DELEGATE: Absolutely none.

A DELEGATE: I lived in Kansas for thirty-eight years—I was the superintendent of schools at Topeka, Kan., for twelve years; and I know pretty much the interesting situation in reference to that town from the side of the school looking out on the business world, as well as from the business world looking into the schools, and I recall that the Chief Engineer of the Santa Fe used to snap up every boy we graduated, and said that we were giving a better course at the Topeka High School than at any other place in the State, and made a plea that we should put into the high school of that city a strong course in manual training. It was largely through the influence and inspiration of the Santa Fe people that as superintendent of schools I succeeded in bringing about manual training in all of the schools of Topeka. I ask Mr. ———— why he believes manual training is a failure and an extravagance in the public school system of America?

A DELEGATE: In regard to manual training, there are exceptions, no doubt, but the great majority of the schools do not have practical persons to teach the courses. The majority of the manual training schools in the United States have not done much more than to teach the boys a little carpentry——

A DELEGATE: You are wrong there——

A DELEGATE: In the first place, they have no conception of the amount of time it will take to do a certain piece of work, and no conception of the value of the material they are working with—they do not correct the boy for using too much time or using too much material. Another thing, they treat them all alike; they hitch up the plough-horse alongside of one of those nervous Arab steeds.

I have discarded the use of blackboards in apprenticeship schools, except for the purpose of marking public bulletin notices on the blackboard. You cannot use the same means—some scholars require a month to assimilate a subject, while another scholar will get through with it in a few hours. In that sense, if a child has left public school to go to work, you can find that out before you finish the grammar school. Such children hardly ever develop in a manual training school, but require more instruction. I am speaking of our western schools. Of course, it is an agricultural country. I believe in this thickly settled manufacturing country, trade schools will be profitable where they are vocational, pre-vocational, or part-time systems, whichever is the best to adopt. The money we spend in manual training, we should use as far as possible in strictly trade training and part-time methods. Neither the trade schools nor vocational schools or pre-vocational schools or part-time schools, nor manual training schools, will take the place of a proper system of teaching the boy, so that at the end of four years he will be able to earn one hundred per cent. and justify the company in paying him as much wages as are paid a journeyman.

A DELEGATE: It seems to me what Mr. ——— is objecting to is what might be termed a misconception of the sort of manual training which should be done by the public schools, and I am willing to admit that all over this country the public schools have been trying to discover themselves, just as the corporation schools have been trying to discover themselves. There has been a sort of aloofness on the part of each factor, so far as outlining a course of study in the public schools is concerned. But I believe it is a fundamental principle, which Dean Connelley has touched on, and an important educational fact, that hand work of some kind is absolutely essential to the development of a child, and as hand work is not given him in public schools he may not be able to get a satisfactory start.

He speaks of boys coming from the country. They have some form of manual training in the country, and that is why they make good in going into the school. What we need to do is to get some kind of manual training or industrial work or vocational work put into the public schools rather than to draw the conclusion that hand work has no place in the public schools. I believe the mistake lies along that line, and that industrial training will always have to be an essential, integral part of the course of study of the public school system in this country, and what we must do is to learn from that side of the work the kind of work that ought to be done, industrial work, and see how we can make the educational or pedagogical view tally with the views you hold on the other side of the question. We are open-minded on that side of the question.

The meeting then adjourned.

COMMITTEE ON PUBLIC EDUCATION

MR. E. H. FISH, *Chairman*

NORTON COMPANY

Worcester, Mass.

MISS HARRIET FOX

STRAWBRIDGE & CLOTHIER

Philadelphia, Pa.

MR. E. G. ALLEN

CASS TECHNICAL HIGH SCHOOL

Detroit, Mich.

MR. ARTHUR E. CORBIN

PACKARD MOTOR CAR COMPANY

Detroit, Mich.

MR. ARTHUR W. EARLE

WINCHESTER REPEATING ARMS COMPANY

New Haven, Conn.

TUESDAY—AFTERNOON SESSION.

PUBLIC EDUCATION.

TUESDAY AFTERNOON—MAY 30, 1916.

VICE-PRESIDENT HERBERT J. TILY, *Presiding*.

THE CHAIRMAN: The meeting will please come to order. We will now have the report of the Committee on Public Education, of which Committee Mr. E. H. Fish is Chairman. The report will be presented by Mr. Fish.

MR. E. H. FISH: I wish to say, preliminary to the presentation of this report, that it is built for the purpose of being torn down; it is like a scaffold that you put up around a new building, with the deliberate intention of taking it down after the building is completed. I think there is only one other member of the Committee on Public Education present—Miss Fox—and I speak for her and myself when I say that neither of us is at all sensitive about this matter, and you can rip into this report without any danger of our feeling badly about it at all. We want to save as much time as possible for discussion, for if this meeting is anything like the meeting last year, there will be those here who want to discuss the report, and in order to give time for that I will only read briefly a few of the statements of this report and one or two others.

A higher type of intelligence is needed in our shops every year, and yet it is necessary that we employ men further and further down the social scale, and I might say the intellectual scale—that is, we are forced to employ men in our factories and workshops who we would not have considered for employment the year before, and that is particularly true this year when we are taking men into our shops whom we hate to take at all, but we have to hire them in order to keep the wheels moving.

In connection with the section headed "Study of Industry by Educators," I wish to say that that is a difficult thing to accomplish. We open our shops to the visits of school people, but it is utterly impossible for a person outside of a given industry to get a comprehensive view of that industry by simply visiting it. We only see the superficial side of it. We visit a rolling mill and see the plates going back and forth through the rolls, and that impresses itself on our minds, and we get an

idea that is the whole of the business. When people visit the plant of the Norton Company they see us making grinding wheels, they see a certain spectacular portion of the work, they see us burning the wheels in kilns, and they think that is all that there is to it. As a matter of fact, that is a comparatively small part of the whole of our problem.

In that connection we have suggested moving pictures as a possible means of education. Incidentally, we are taking our own medicine, and I hope that in another year we can comment on it and let you know our experience. We are going to try the experiment of having a moving picture camera to take pictures which we will distribute through the schools and colleges and places like this, so that the people may know what we are doing, and what the boys will have to do when they come to work for us.

On page 239 we have touched gently on the control of schools. This body does not desire to take any part in politics, but there is always a chance of raising a hot discussion if we go into the political control of schools. We oftentimes hear of a city in which, to an outsider, there seems to be a strong political control of the schools, but when we get into the city we can find no admission that there is anything of the kind. Except for the cities represented by the members of this Committee, we do not know much about it. I will have to admit that in the city I come from we have a school board so thoroughly dominated by politicians that I do not believe we get more than fifty cents on the dollar return for the money spent on the public schools. If that statement brings out some information on this subject, I shall be glad to have made it.

Most of the text-books available, even the list which the preceding Committee suggested, are text-books which have been prepared for schools rather than for industry, and it is very hard, indeed, to find text-books even for the grammar grade in as simple a matter as arithmetic which will state quantities in the terms used in the trade or industries. They seem to have been laid out just simply for the purpose of getting a certain number of problems which involve certain operations in arithmetic, and the same thing is carried through so many of the text-books that it appears impossible to find suitable text-books that we could endorse, even if we wished to do it.

REPORT OF COMMITTEE ON PUBLIC EDUCATION

The work of the committee on public education has been based more on agreed facts than on newly gathered data. We have found sufficient agreement as to lack of effective work on the part of the public schools and enough misunderstanding on the part of employers so that we have deemed it wise to begin work on the following basis:

a. The public schools are burdened with subjects for instruction which have accumulated from year to year and which, no matter how desirable singly, have demanded so much time and attention that they have diminished the time and drill formerly given to more fundamental subjects.

b. The demands of the world on educational systems have steadily grown. A higher type of intelligence is needed each successive year in all vocations, and yet industrial growth has made necessary the employment of men farther and farther down the social scale.

c. The demands of industry and commerce for trained employes have never been logically classified.

d. The duty of the public school is to train young people in whatever subjects are of general importance to large groups of people.

e. The duty of the so-called corporation school is to train specific workers for the diversified tasks which they must meet.

f. Temporarily it appears necessary in many instances for the corporation schools to parallel the work of the public schools and to repeat work which has not been done effectively by them.

A discussion of the subject has brought out the following classifications of the activities of the public schools.

a. Those subjects which will probably be useful to help the graduate earn a living.

b. Those which teach the appreciation of things which are not necessities.

c. Recreation, preferably spelled "re-creation."

Many subjects overlap two or all of these classifications, as for example:

Music, which may be taught as a probably future means of livelihood through execution, as a means of appreciation of the

masters, or as a purely re-creative respite from the daily round of work.

The first step in considering possible changes in public education is to determine the relative value of the various subjects of public school instruction with the pupils' future as a citizen, a member of society, and a producer in mind.

His value as a member of society depends, of course, in a large measure on his ability to produce enough to make him independent of his fellow-men, to house and clothe him in comfort, and to feed him well enough so that he can take real satisfaction in the appreciation of the artistic things with which our modern life surrounds him.

The pressure of the forward march of inventive science has made necessary for producers a training which could not have been predicted a few years ago. It is entirely possible that much of the discontent which has been expressed both by laymen and professional instructors with regard to the present state of public schools is due to the fact that the strides which business has made have not been matched by those of the schools which, in many instances, have not found themselves with money enough to take care of the increased number of pupils, to say nothing of making progress in the science of education.

As a basis for discussion before the Association, the following rough classification of the studies which are most commonly included in the grammar school curriculum has been prepared. No amount of preparation of data or other statistical study can possibly accomplish so much in determining the value of this division as an open discussion, so this matter is presented with the distinct desire to provoke discussion and not as a finding of this committee.

a. The following are of value to the very great majority of all pupils for their practical use in everyday and business life:

Reading.

Mathematics (especially Arithmetic).

Penmanship.

English, spoken and written.

This list is practically the three R's, if writing is held to include correct writing of the language as well as penmanship. It is a very brief list, but it is presented as covering the subjects which employers of our boys and girls agree on as necessities.

b. The following subjects are of large value because they

tend to enlarge the appreciative powers of the pupils and because they have a re-creative effect :

History.

Music.

Freehand Drawing.

Physiology.

Nature Study.

Science (bearing in mind this if for grammar schools only).

Chemistry (bearing in mind this if for grammar schools only).

c. Certain other subjects including :

Civics,

Geography,

Physical Culture,

Mechanical Drawing,

Manual Training,

appear to offer possibilities in the way of training that combines something of the function of both of the above.

The teaching of a certain portion of civics which is usually given rather little consideration, that of the future relation of the pupil himself to society, is or should be of intense value to the nation and especially to its industries and commerce. Instead of that, our children are taught much about the higher functions of government, and the machinery of courts and legislatures with which most of them have little later opportunity to come in contact.

Geography, especially that of the immediate locality, city and county, has a great value. It is desirable that he should be initiated into the use of maps, so that he can trace means of travel and freight routes from one point to another.

Physical culture, in the sense of bringing up a rugged lot of children in place of spindly, flat-chested youths, lacking in endurance, is something much to be desired. It is hardly a part of the classroom instruction, however, but rather a part of the recreation, which now too often consists in hanging over a schoolyard fence, surreptitiously smoking cigarettes. Its value is incalculable, but it is best taught by recreation, as witness the

work of the Boy Scouts and other outdoor organizations.

The above statements appear to be borne out by the results of a questionnaire, which was sent to the members of the Association, a copy of which is annexed to this report. This brought out between 5,000 and 6,000 individual replies to specific questions, so that it may be presumed to represent as a whole the well-thought-out opinion of large employers of labor.

The accompanying chart is offered as a means of showing at a glance the results of this inquiry in a broad, general way and also in as great detail as anyone is likely to require. It appears from this that we are unanimous in thinking that the following subjects are of prime necessity:

- Addition. Whole numbers.
- Subtraction. Common fractions.
- Multiplication of Decimal fractions.
- Division.
- Percentage.
- Simple interest.
- Reading.
- Penmanship.
- English composition.
- Business English.
- Spelling usual words.

These in themselves form a pretty well-rounded education, but to this 60% of our answers would add for certain parts of their organization:

- Proportion.
- Compound interest.
- Spelling of technical words.
- Geography (Physical and Commercial).
- U. S. History (Political).
- Physiology.
- Civics (intimate relations of people with their government).

The following subjects are apparently considered of little or no value by 70% of the members who answered these questions:

- Cube root.
- Music (vocal and reading).

Science.
 Chemistry.
 Principles of government.
 Foreign languages.

When the above statements are discussed, we expect to hear decided exceptions taken to the apparent relegation of subjects like history, music, and freehand drawing to the position of re-creative or appreciative subjects. On the other hand, it seems as if the present taste of the American people for ragtime music might be a protest against the school methods of teaching music and the abominable taste that is shown in what might equally well be artistic millinery, a protest against the method of teaching drawing. In other words, has the teaching of these subjects for many years past had an uplifting effect on the American people? History, too, if studied merely as a chronicle of the dead past, possibly has not had the effect for which we have been seeking. Should not history be studied in search for the inspiration and encouragement which it may give us, rather than for the memorizing of facts, many of them most lamentable?

The classification which we have offered of the different forms of drawing may also arouse discussion, as may also our entire omission of manual training from among the subjects of earning value. It may, however, be argued that every form of drawing and every principle taught in manual training is an underlying principle of some trade or profession, which is of vital commercial importance to those who make their living by its practice, and as such they become subjects of special training which may very well be the work of a corporation school.

If, however, these matters are made a part of the curriculum of the public schools, the time which can be allotted to them is so small and the number of pupils who can see a future value in them is so limited, that little of value can be expected, except as they may create ability to appreciate the work of others, or may be a means of re-creation.

The boy who makes a piece of furniture by old and laborious methods which would not be tolerated in modern manufacture, has not taken any appreciable steps toward becoming an expert workman, but he may have discovered that the expert workman is a man possessed of skill which he should and can appreciate. He has also, in the course of his work, had a combination of

mental and manual exercise, which is valuable from the re-creative standpoint, if no other. Discussion might also well bring out opinions relative to the amount of time which can fairly be spared from the three R's which appear to be so essential.

STUDY OF INDUSTRY BY EDUCATORS.

It appears that a comparatively small number of public school teachers have any well-grounded knowledge of any industry at all, and that almost none have a comprehensive view of industry as a whole. Industry and education have rapidly separated of recent years, as industry has pushed its way ahead.

In almost every community some manufacturers offer teachers and the classes opportunity to visit their shops in hopes of interesting them in their activities. These visits are productive of much good feeling and some interest, but when we consider the millions of school children and the complexity of business, it is apparent that all the visiting that is possible without suspending both school teaching and manufacturing is negligible.

It seems to us that it is the plain duty and a most profitable one for manufacturers to take the time to present to the future working public the true story of the work which they will be expected to do, the conditions under which it is done, the possible present and future rewards. Whether this is done by means of illustrated pamphlets, by illustrated lectures, or by moving pictures is an economic problem.

It appears, however, to be necessary to visualize the work in order that it may be understood. Dry statements of facts must in most cases be presented in language so technical that it is not understandable by the teachers, nor by the pupils without the aid of a clear and plentiful illustration. Enough is already being done along this line, even though it is mostly directed toward sales promotion to show its possibilities for this more vital purpose.

As a means of vocational guidance, this should also have a large value. One of the most inefficient things about modern organizations is the attempt of boys and girls to find their proper niche in industries of which they have greater misconception than knowledge. If the proper presentation of facts about the working of our industries can be made, it should save our shops

millions of dollars spent in spoiling good mechanics in trying to make professional men from boys who only lack knowledge of what business is, to make them wish to take it up.

CONTROL OF SCHOOLS

It seems to be a well-established custom to provide a lay-board of control, employing professional educators. The method of selection of this lay-board varies in different communities, but in general it may be said in the small communities it is very apt to exercise favoritism in the selection of teachers and text-books that is almost unknown in the larger cities. The effect of this is most deplorable, and is something which we feel very keenly that our members should interest themselves in the cities which they represent. The finest possible system of instruction with the best selected studies falls far short of its possibilities if placed in the hands of teachers whose tenure of office is dependent on political influence or on the intervention of friends.

TEXT-BOOKS.

The Chairman has received from time to time sample copies of mathematical text-books issued by leading publishers from which he has attempted to select one or more which would meet the needs of the industries without being of less value to the rest of the public. Nothing was found. The comments of Mr. E. G. Allen of this committee, on this subject, may also be a subject for discussion.

"Even a superficial examination of many of the text-books in use would show to any group of business men that actual business conditions and the requirements had not been considered by the authors. In a text-book used by my own children, in the city of Detroit, bills of lumber are written in the reverse order of length, width, and thickness.

"Problems are given which are supposed to illustrate general principles of arithmetic in which the necessary additions, multiplication, subtraction, and division are so long and complicated that an expert would hardly be able to go through them without a mistake.

"There is a set of text-books on geography known as the——— Geography Series, which are in use throughout every state in

the Union. They are delightful books to read, because they glide from place to place like a trip on the cars. The scenery is fine and about as much impression is left upon the student's mind of the definite location of places and scenes as the aforesaid trip on a fast train would leave.

"When the children get to the high school, they have almost no notion of place geography.

"The histories deal largely with the political form of government, and overlook the human story of life in the early settlements, and thus you could go down the list of text-books written for teachers by teachers and point out many things which do not fit directly into the child's life, if he should enter the industries with the preparation that we should expect of one who has completed the elementary schools."

CONCLUSION.

After all, it appears to be a fact that employers lay less stress on the educational qualifications of their employes than on character, appearance, skill, personality, willingness to work, adaptability, and other similar assets. From this it would seem that the personnel of a teaching force, the type of mind, and the character of the people with whom the child is brought in daily contact is of even more importance than the method of instruction or even than the subject to be studied. Men and women who enter the teaching field must do so to-day at a tremendous financial sacrifice, as compared with the rewards held out by industry; so great a sacrifice, that it is inevitable that many who would find their most congenial surroundings in school and who could do the greatest amount of good there, simply cannot do it.

It would seem that if more money cannot be afforded, that the most essential subjects at least should be taught by a higher type of people than is often found, especially in the smaller cities and towns. As things are to-day, the best of those who enter the profession gravitate toward the larger cities where the salaries are larger and greater opportunities for study and advancement are to be found with the result that in the communities from which a very large and very desirable part of our manufacturing forces are recruited, are left with anything but desirable teachers.

E. H. FISH, *Chairman.*

April 10, 1916.

THE CHAIRMAN: The discussion on this report will be led by Dr. William M. Davidson, Superintendent of Public Schools of Pittsburgh.

DR. WILLIAM M. DAVIDSON: Mr. Chairman, gentlemen and ladies of the convention: Thomas Bailey Aldrich wrote a little poem once entitled "To a Critic," and he afterwards changed the title to the more euphonious caption "Appreciation." He took the suggestion of a little child first carrying the seashell to its mother and asking the question—"What is that I hear within the shell?" and the mother answered—"You hear within that shell the resounding of the mighty waters of the sea; the rising and falling of its tides, and the breaking of its mighty waves on shores."

It was Ole Bull no doubt who thought of that music on the mountain sides for when anybody asked him the question "Who taught you to play the violin?" he replied instantly—"The mountains and the forests of Norway." Mark you, that was not in reality what he had heard, but his mother taught him a beautiful allegory of spiritual significance, and science told him, when he studied physiology, that it was nothing but the echo of his own heartbeat. Taking the two thoughts together from religion and science the poet wrote:

Hold this seashell to your ear
And you shall hear
Not the andante of the sea,
Not the wild wind of symphony,
But your own heart's minstrelsy.

And then craving that word of appreciation for himself which you all crave, and men and women in common everywhere crave for the things they do and achieve and accomplish, he dedicated that as a poet to his own mind.

You do poets and their sins
Grievous wrong; for your own soul
Does not bring to their deep religion
As much music as for sin.

And so, ladies and gentlemen, with the spirit of Thomas Bailey Aldrich as revealed in his lines upon meeting this convention I stand here to endorse in the main everything which

this report has presented, and to ask the question whether the world at large, the so-called layman, has not allowed himself to look upon the work of the teacher and the work of the men who represent leadership in the world of education, boards of education everywhere, with an eye of criticism without bringing to the work which they are studying with deep and profound and sincere appreciation which would be akin to that which Aldrich would make a plea for.

On the other hand, we teachers, sir, I have no doubt, we have held ourselves aloof—I understand you were a teacher at one time, Mr. Chairman, we have held ourselves aloof and have been impatient of criticism and suggestion where it has come through a layman, and I will not say, and I am not sure at all, there has grown up in many localities a consideration of the influences which ought to be fusing their efforts, their power, their ideals and their hopes in the building up of one common interest in the public schools so that they would measure up to the ideals of the whole community instead of merely the teachers or merely of those who would be critics of the public schools as they are constituted.

What is the public school? It is the institution which represents the common denominator. It stands there for a purpose in order that we may level a democracy so that when these various elements represented by the thousand and million enumerators may be cast out to the right and a unit discovered; that we stand as one nation and one people and use this great democratic institution that is reducing the people of this mighty republic to a common denominator in all essential elements and leaves them believers in all the necessary things in which they should be believers, things to be so closely linked with business and art and literature and culture that it will embody in itself the best which every human intelligence has to contribute to it, I suppose it is at that point we all find ourselves willing to endorse the common denominator theory and believe that the public school system is the great democratic institution which perpetuates and preserves our common democracy.

But this country has been a thing of rapid growth. Dr.—— in the U. S. Exhibit at the Buffalo Exposition, made a graphic exhibit about as large as these panels in which he showed the growth of the University course, the course of study in the

Universities of the United States in the decade beginning with 1800, and running to 1810, as consisting of thirteen branches. In the decade from 1810 to 1820 a few more were added until we get down to the decade in which he had made his charts, that of the 1900's, and it had increased five-fold, from 13 to 65, and in the decade in which we stand there is not a university or college in the country that does not present 125 distinct and separate courses, and almost that many branches to the student, in order that they may select what they want to do.

There has been a further process of differentiation and separation and elaboration, through the discovery of new fields of endeavor, by which our university courses have grown at such a rapid rate that when I stood in the Government Exhibit in the Palace of Education at the Panama-Pacific Exposition last summer I discovered that the University of Minnesota had somewhere in the neighborhood of 2800 courses which it offered to its students in all classes representing that great university, and Wisconsin a little below it, and Columbia University, which does not reach out into the field of agriculture and some of the sciences which these state universities take up, was not far below it.

So that the university course of study in this country is a sort of type of study to know what has been taking place in the higher realm of education; and we ask ourselves is any of that spirit, any of that impulse to growth, enlargement, elaboration, segregation and differentiation, and all the means by which men's souls may grow in the educational curriculum, is there anything similar to it in the secondary course of study?

The answer is this: When I was a student at high school the number of branches taught was not more than six or seven, possibly eight. To-day in every well organized high school that course is elaborated until there are somewhere in the neighborhood of forty to fifty-eight, and even sixty, separate and distinct branches.

What has taken place in the elementary school? By process of a backward movement the elementary school which, at one time, was simply like these thirteen studies of the University and like these six or eight studies of the high school, in its modern growth and progress it has really advanced from the close of the Civil War down to the present time somewhat as follows:

At the close of the Civil War I would suspect there were not 50,000 students in the high schools, certainly not to exceed 150,000, counting all the academic schools in the country, where to-day there are 1,500,000 in the high schools of America, and what has been the effect of this impulse of growth, through subdivision and otherwise, on the elementary course of study? There was a time, as this report intimates, when the three R's were the center of the list and represented the only thing taught. When anything else was taught it was to extend something of that kind.

The course in the elementary schools has grown until if I were to count up and name not only the three R's but put in agriculture, horticulture and some of these things that are being taught in the schools of Pittsburgh and the West, I am sure it would count up to 25 separate and distinct branches. The elementary course has become a vitalized course. Those things that some people look on as non-essentials and fads could not be taken out of the courses in the public schools in any sane city in this land without a riot. Why? Because the people believe in them.

I am glad to see the committee endorse music. I recently went to a concert by the high school orchestra and high school chorus of this city. We have only been running with that feature of music for a year or two, and the result, if you had been at the concert, would have gladdened your heart. These young people who participated in the orchestra and choral work were able to entertain an audience of two or three thousand people, and made them feel that music had made a place for itself in our high schools, that it stood for culture and appreciation and all those things which this report intimates music ought to stand for, in the life not only of the child, but in the life of the community and the life of the people as a whole.

These elementary courses of study with their rapid growth and rapid expansion have always occurred by means of addition. We have been committed through these years to a course of study and we have not thought of any other means or process, if you please, of enrichment except through the process of addition. We do not realize that some things can be enriched, as this course of study intimates, by a process of subtraction.

I am not surprised that a committee of business men, dic-

tated I know in no way by a concert or combination of former schoolmen, have seen to it that they put themselves in step with at least one more process of enrichment, and that is the process of subtraction. I mean we have reached the point where the elementary needs a different treatment from the secondary and university course, and where we realize that we still must enrich, and as the years go by we will be adding things to this course of study. You cannot get away from it. I will get a delegation of ladies and gentlemen and say—"Here is a new thing. It should be tried out on the public schools first to see whether it is a good thing in the community," and everything will be dumped on the public schools in the future as in the past; in short, the initiative is likely to come from the enthusiastic, progressive people on the outside instead of from the conservative body of people who represent the body of teachers on the inside. Some of the best things have come just by that means.

They have been trying it out on the child and found it would not work, or else they have been trying it out on the child and found it would work, but because we have forgotten we could enrich by subtraction, we fail to realize that the next step in enrichment should be what this committee intimates it should be, namely, we must enrich by eliminating or by stopping all non-essentials from the text-books and from the course of study in order that we may treat those things which are essential within the realm of any single subject. That is the first step. (Applause.)

Then again we have recognized as well as this committee, I am sure, that there is a lot of so-called stuff in these text-books that have been referred to that has been so abstruse and so abstract that it would not have colored the cheek of any child to recite which was of interest in the life of any individual. In short, it was material which was useless for the purpose of education and hence not only ought to be eliminated, for it is absolute chaff, but some of it that had a kernel of truth and value in it ought to be simplified so that the children could understand and comprehend it at the age at which it is taught to them.

Here are two great means of taking the material that is left, eliminating the non-essential and simplifying that which remains in order that we may have more time to do the essential things well and more time to do the special things which have failed

to enrich the life of our children and given them fuller life and more abundant life, and that you may have light as a teacher and have it more abundantly.

This growth brings us up to a point where we must recognize that these suggestions that are made in the report are along the line of modern thought, and to the Chairman of the Committee, as a schoolman I feel like offering him my felicitations and congratulations, that he is not a fossil and has gotten in step with what every wide-awake teacher and every wide-awake leader of education in this country believes should be done, it may not be just the thing which he suggests, it may not be just the thing which I suggest, but the spirit is in the right direction and spells the needed reform in terms of elimination and simplification.

This course that is offered has some things of very great value. It tells us it has been intimated that the duty of the public school is to train young people in different subjects of general importance to large groups of people. That is what suggested to me the program of making the public schools represent the common denominator of our own common democracy. The large groups of people are interested in some common thing, and it is essential they should be. Dead uniformity will kill any interest in the world. Take a manufacturing establishment and insist on every man being at a dead level, so that no man has the opportunity to take the initiative and express an idea, or give vent to his ideals, and that institution will be a back number inside of ten years. For a public school to make that dead level, so that a teacher was a teacher, and a principal was a principal, and nothing more, and cannot even dare take the initiative along the lines of their work, in order that they may be able to express some of the things that well up in them, so that they can experiment with these things to give the children more uplift, that public school system is a back number and will never catch up with the procession.

Those subjects which will probably be useful to graduates in earning a living are emphasized here, and I am sure if I were to go over this report I would find only here and there some things to which I would take exception. In the main, let me say, it is in keeping with what we are trying to do in the city of Pittsburgh. I am glad the subject of school control is mentioned here. I think you should make it a vital concern to see

that a situation is created in every city in which political manipulation of the control of the schools is an absolute impossibility.

In the city of Pittsburgh I am glad to say at the present time, and we hope it will continue for years to come, we are absolutely at the furthest point removed from political suggestion, hint or influence; that in the two years and a half that I have been here, since I came from the National Capital, not a single improper suggestion has been made to me or to a member of this Board of Education, as to who should be appointed to any position in the public schools. In short, they are quite content to leave it to the superintendent, as long as they find out they can trust him, and that is the platform upon which I stand, and when they find out the superintendent is not capable of doing that work, then I say it as a schoolman, as you would say it as a businessman, they ought to get a new superintendent of schools. There must be an ideal set up, not only in our large cities, but in the small cities of this country, in keeping with the spirit of this report.

In order that I may contribute something definitely to this discussion, I am going to say this—that I think the trouble with the public schools is not in the curriculum at all. I do not care whether this arrangement is made or some other arrangement is made, if you will apply addition and subtraction to the enrichment so far as the course of study is concerned; I believe Mr. Fish and I would agree on every proposition, heartily, if we had time to thresh it out. I believe that the present arrangement of administering this course of study does not give us an opportunity to fill the life of the student—of the child—full to the brim. We get into ruts and we do our work in such a routine way that the result is we build up a sort of educational machine that tries to develop every child after a set type, a set pattern, instead of creating diverse methods to meet diverse situations in the training of the children in attendance upon the public schools. In short, we are likely to insist that the recitation is a form of hearing the lesson, where the teacher will do all the talking and the children will do all the listening, when they are not wool-gathering on something else, instead of it being a conversation, as Frank McMurray said, carried on in the public school between teacher and pupil on something in which they are interested in common.

I have been trying to study this last year whether or not it would be possible for school officials to get over a feeling that sometimes comes over the educational world—I wonder if it ever comes over the world of business—and be willing to recognize that a mere man out yonder in the sand dunes on the shores of Lake Michigan had given the greatest educational idea from the standpoint of classroom operation and American education in fifty years. I refer to William Wirt, of Gary, Indiana. Wirt's plan is an adaptable plan and can be modified in all conceivable ways and applied to the various cities of the country.

In Pittsburgh we have taken Wirt's idea and his principle and have introduced it into one of our schools as an experiment and hope to introduce it into two more next September. Our Board of Education have given it hearty and total endorsement. We are erecting now, by means of additions and new buildings, five new ward schools and plan a new type of school building in which we hope to put the Pittsburgh plan into operation.

Why do I intimate there should be an entire recasting of the method of administering the course of study? I have taught the three R's and an elaboration of the three R's into the seven essentials, and I am sure you will not think I mean to be egotistical when I say I have taught these branches successfully? I have had an aroused interest and my pupils saw they had a leader who led them, and I gripped them, in such a way that I was able through these simple means to make at least an impression on them that would last, but when it came to the subject of these special branches, so-called, drawing, if you please; when it came to the subject of music, when it came to the subject of nature study and elementary science, which need so much preparation in order that it may be put in definitely; when it comes to the subject touched on so well in this report of elaborating the whole problem of visualization, of teaching through the moving picture machine, the stereoscope and the stereopticon—we need to be put in the position when that sense training should be exalted and emphasized in the mind of the teacher—when it came to these things I found myself too much stressed on the regular things to do the special things well; and that is the situation which exists in every classroom in this country, where the classroom unit plan, the plan of having one teacher teach forty children in all the branches, special and regular, from morning to night, is followed.

The Pittsburgh plan is to break up that situation so that the regular teacher shall teach only the regular branches, and to give her fifty per cent. of the school time in which to do that, that is plenty enough, I am sure it will be so demonstrated, and that it will result in more time being given, even, to the science of reading, writing and arithmetic, if that sort of subdivision is made, and after she has instructed the eighth grade for forty-five minutes, then she is sure a special teacher will come to instruct the class in manual training, cooking, or science, in nature study, elementary science, in school gardening. There, in the assembly room, they will have an illustrated lecture, giving the social side of education, with the stereopticon or moving picture machines, and in this way there will be a further and larger use of the rooms in the public schools.

The same teacher takes forty more children, and she teaches eighty children in regular branches, and the children will receive better instruction than if she were obliged to range through a wider group of subjects, which include both regular and special studies.

The results is that the child takes his music instruction under a teacher on fire with music, who is a specialist in it, and teaches music through its cultural side and creates a larger appreciation. So it is when we come to nature study and the teacher is on fire with nature study. The old gardener in Schenly Park said to me one day as I looked at his roses: "Mr. Davidson, to grow roses, you must have roses in your heart;" and to be a nature study teacher you must have nature study in your heart; to be a successful music teacher you must have music in your heart. So these teachers, because they love the subject and specialize in that branch, become music teachers, elementary science teachers, chemistry teachers, if you please, physics teachers, school garden teachers, assembly room teachers, teachers of expression, teachers of construction, of industrial work, cooking and sewing, all do special work because they have special aptitude for that work.

The result is that the children get their regular work just as well and they get the special work better. The result of that, demonstrated in this city indicates, the teachers tell me, that they are getting better results from the children because the children show that they have more initiative and take more interest in the school than before. I cannot explain why it is, except there

is more variety. One little girl in going on an excursion the other day to the Park was heard to ask the question—"Why do you suppose it is they are giving us so much more 'pep' at Mc—— school than the other boys and girls get?" They discussed the question until they settled it among themselves that they were getting more. One little girl said: "Don't we like it?" and there was a chorus "You bet, we do."

The children here, as a result, the same as they do at Gary, allow themselves to be gripped in the public school in the eight-hour day instead of the five-hour day. Although we have lengthened the school period forty-five minutes in the day, we really do not give as much time to the regular studies as are given in the other schools of the State.

We are not in any way minimizing the work that had heretofore been done on the elementary course. One of the practical results of this plan is that in a school building which we erected for seven hundred pupils we can now put in twelve hundred pupils, thereby overcoming the necessity of erecting another building to accommodate the other five hundred pupils. It has in it economy and an increased educational value. I am interested on the business side of it, as every superintendent should be, because money should be wisely spent and should not be extravagantly spent. It should not be wasted, but, on the other hand, I am interested in the educational results, to secure educational values than I am on the other side, the business side.

I conceive, ladies and gentlemen, if this sort of plan were carried out and put in operation, the teachers brought around to view it properly, and the school officials and principals brought around to view it properly, it would solve many of the questions which you regard as critical questions in relation to the public schools at the present time. It would make them flexible, and that is the thing we need in business and in the public schools. We do not want things so hard and fast and so tight it is impossible ever to break a rule that is laid down. Rules should be capable of being bent to the purpose of training a child to develop its soul, and give it power, and this sort of situation becomes a flexible situation.

The children over at Gary as I witnessed them, and as every man who looks at them with the eye of love witnesses them, are having a richer life than in some of the neighboring cities. I

am sure this plan will bring richer life to the children of the public schools and the board of education in the city of Pittsburgh, and a more flexible method in the course of study; and that this proposition of reorganization of classroom instruction, through a breaking down of the old classroom unit plan, and substituting in its stead the Gary plan, will bring about such standards that we may well turn out children with larger initiative than before, and which will meet your approval in the business world, I am sure, more highly than they are meeting your approval now.

A friend of mine in the audience handed me a card on which is propounded the question as to whether or not in these corporation schools you were able to teach successfully the things concerning which the public schools were said to have failed. That is a question which would be a fine thing to take up in the round table here, to find out whether or not you do better with this group of pupils whom you have in your corporation schools than the public schools do with them.

We find sometimes these children represent an individual group of children, they are individualistic in their tendency, you cannot confine them in the classroom, the call of the wild is on them, and they want to get out. They are not book-minded, and not particularly hand-minded, if you please, or manually-minded, but have a desire to do something differently. They want to go to work, they think, and when they go to work they want to come back to school, and after you get hold of them the question is whether or not in these fundamental branches which we have failed to teach them they do any better with you than they do with us. I suspect they do.

I must not permit myself to discuss this subject longer. I can only open up the question and say we are heart and soul with anything that will bring the business world to recognize that we stand ready to receive suggestions and we have no chips on our shoulder. We are glad at any time if a suggestion can be made of a vital sort, which we can put into the public schools and through it work out a more satisfactory training of the child in his school life and in his training for his mission in the world, than we are working it out now.

I am indebted to this committee for the splendid report which they have given, which is open enough to provoke all sorts of

discussion, and in the main is full of the fine spirit which indicates progressive thought on the part of the committee and on the part of your Association. It is the sort of progressive report which every thinking schoolman and schoolwoman in this country to-day is ready to endorse.

I wish to say in conclusion, ladies and gentlemen, as I was sitting in this audience an inspiration came to me through the motto overhead, "Here inspiration spreads its wings," as I know it had come to every person in this audience. I wish that this inspiration would be carried into every schoolroom and every shop and every mart of commerce in the world, because after all they need just that kind of inspiration, and it is the inspiration of having a message burned into the intelligence upon the tablets of the brain and seared into the heart of everyone who is called upon to be a leader of little children, of youth, of men and women. I refer to the motto that reaches across this arch above my head:

"HERE INSPIRATION SPREADS ITS WINGS."

In every schoolhouse of this country if we could get teachers to realize "Here Inspiration Spreads its Wings," in every shop, in every counting-house, in every place of business, if we could get the leaders, the superintendents, and those who are directing the work to realize that "Here Inspiration Spreads its Wings," it will bring joy and happiness and peace to the lives of boys and girls, men and women, whom we direct in the institutions with which we are connected.

Ladies and gentlemen, may it be true that this motto was put before us so that we may carry it back with us and place it in our shops. May it be true that it was put there for me. I have been here before, but never caught the meaning as I have to-day; may it be true that it was put there for me to make a high resolve and to live so that as superintendent of schools of this city I will carry that message to my teachers and everyone connected with the great work of teaching the little children and the youth. (Applause.)

THE CHAIRMAN: The subject is now open for general discussion.

MR. NORMAN COLLYER (Southern Pacific Company): Mr. President and Delegates: Dr. Davidson's concluding words ring

in my ears. He is ready for suggestions. He invites our constructive criticism, and I think his position is the position of all progressive schoolmen to-day.

I wish to say a few words on this subject on behalf of the railroads of the United States, and indirectly on behalf of employers generally, because the problem of the railroads is the problem of all large corporations, except that in some particulars it presents difficulties of peculiar delicacy. The control by school boards of the school situation, and hence of the school policies, must in a measure be connected with politics. Railroads unfortunately have a very odious name in matters political, in some cases unjustly, and in other cases—and I fear the majority of cases—justly so. That condition is now changing; and the railroad companies, when they have something to ask of legislative bodies or commissions, do it by public methods, by the process of sending their advocates and their representatives to appear at public hearings, in which their needs are frankly and freely stated, and their arguments are debated pro and con. Hence, it seems to me that the railroad companies will do better in dealing with the school question by going to educators and by presenting their needs, expressed in a way which will be understandable to the schoolmaster, and which will be of practical application.

Precedent to that, it will be necessary for railroad companies and other corporations first to study their needs, so that they may have something concrete and specific and definite to offer.

The opening page of this report, paragraph d, states: "The duty of the public school is to train young people in whatever subjects are of general importance to large groups of people." If one-twelfth of the adult male population of the United States may be considered a large group, then the railroad business is of importance, because every twelfth man that you meet on the street is an employee of a railroad. Our difficulty, so far as I have seen it, is in getting the managers of railroads and managers of corporations generally to give this subject the attention which it should have and deserves. They do not see it either from the sociological or from the business side, but the business side can be strongly presented if it is done in the proper way.

To illustrate—the company which it is my good fortune in an humble capacity to serve spends annually on public instruction in the six western states which it covers the sum of two

and one-half million dollars. That sum it pays through its taxes—it is hidden, but it is there. Out of the five million and odd dollars it turns over to the public treasuries of these states, nearly one-half is immediately taken out of the treasuries of the states and put into the school fund. That does not include our direct contributions to the universities in the form of free transportation, etc. There is the business side of the matter. Can the managers afford to spend so much money on public instruction and give it no attention whatsoever?

Then there is the question of the product of the schools. As I pointed out, practically one-twelfth will go into the service of the railroads. Another proportion will go into the service of the manufacturers. Another proportion, not quite so large, will go into the service of stores. Do they not deserve a hearing?

For these reasons, it seems to me, instead of endeavoring to control school policies through politics it can better be done by frankness and by direct dealing with the educators, with the principals and with the teachers. Suppose you go into a school and say to the principal—"We have made a study of your methods. We find that they do not jibe with our needs in such and such particulars. If you think well of our suggestions, you will modify your plan in such and such a way. If you give us boys who will meet our specifications and who prove to be useful employees, we will take more of them next year."

That will give the schoolmen something definite to work to, some specific proposition. Moreover, it will offer avenues of obtaining employees which will be very useful to you; because, as it happens, boys are apt to follow the line of easy resistance and take the first job that offers, even though they know it is not a job which promises advancement in future years, but simply because the job is there at hand.

We who are connected with the railroads make it very difficult for boys to find work with us. We appall them with our formidable stone office buildings and long corridors. There is no guiding hand to show them where to go, and the result is they come to our buildings to look for work and do not get past the threshold. Then they go down the street to a garage, or perhaps a corner grocery store, and they see a sign in the window, "Boy Wanted," and they get a job, simply because they are not ten feet from the door and can beat a hasty retreat at

any time. That can be changed, not by sending an employment agent into the school, but send a representative who will represent the company's needs and the company's interests, and who will make known, as the report points out, the nature of the railroad service, or the service of whatever corporation may be under discussion, and who will present to the future worker the true story of that service and how employment in that service may be secured.

MR. PAUL KREUZPOINTNER (The Pennsylvania Railroad Company): In discussing public education let us not forget that our public institutions and schools reflect the character of the social, political and economic forces which govern society and consequently, to the degree as these forces react upon society, morally or demoralizing, retrogressive or intellectually progressive, to that degree these institutions will be valuable or retarding to the life of the people.

While our schools have progressed much slower than the intellectual needs of the people demand and the teachers stand, unfortunately, isolated from the seething activity of public life, nevertheless, our schools have made immense strides during the past fifty years. As late as 1875 there were still sections in Pennsylvania where teachers' positions were auctioned out to the lowest bidder and normal schools were no better than a present day second rate high school.

However, conditions require a more rapid readjustment of our educational system and I, for one, agree with Superintendent Davidson's recommendation about the Gary schools. I have been at Gary twice, have had the pleasure to talk in the schools and have been impressed with the good results attained in the Gary schools.

If our public schools are not meeting all requirements it is not for lack of talent in our young people but for lack of opportunity to have that talent developed. Consequently it is up to the people, to all of us, to support the schools and to see to it for having the teachers so trained and educated that modern requirements are met. If the schoolmen are supported energetically they will do the best they can.

DR. H. M. ROWE (The H. M. Rowe Company): I have been very much interested to-day in what I have heard here. Since the public school question has come up for discussion I feel a

little more at home than I did when the industrial schools were being discussed this morning.

I have listened to the report of the Chairman of your Committee with a great deal of interest. I have listened to the talk of my friend, Dr. Davidson, whom I have known for a great many years as a most efficient man in his special line, with interest. I read the reports of this Association's meeting last year with interest, and I thought I noticed running through them more or less well-defined criticisms of our public schools and statements of what the business public has a right to expect from them that were hardly justifiable or fair. From what I have heard here to-day, I feel sure there is at least a lessening of that critical spirit.

Dr. McCormick very properly stated this morning that our views of many things might be wrong through a lack of understanding. We might know much and yet not understand much. I feel that many of us do not comprehend very fully or very understandingly some of the problems that the public school has to deal with; that are, in fact, fundamental in the shaping of the views which we should hold with regard to the relation which should exist between industry and commerce and our public school system. I heard it stated here to-day by some of those who are conducting schools of apprenticeship that a careful selection was made of those who were admitted to these schools and entered upon apprenticeship courses and that those who were deficient in any material way were rejected and if they were found to be deficient after they began their work, they were dismissed.

In contrast I call your attention to the fact that Dr. Davidson and the teachers in the school system he represents find it compulsory upon them to accept every boy and girl of school age that comes to them, and that they are expected to make of them whatever is possible, no matter what the mental, physical or moral capacities of the pupil or what the sociological situation that surrounds him, may be. Therefore, you will see that the superintendent of schools and his teaching force have to deal with a much more difficult and complicated problem in whipping their raw material in shape, than the corporation schools that make a careful selection of those who are admitted to their instruction. While you have essentially picked your students in

the corporation schools, I have heard it admitted here to-day, Mr. Chairman, that it was not possible to make a success of all those who were received into your training schools. If this is true, surely a critical judgment of what is accomplished by the public schools could hardly be justified.

What I have said is not intended to reflect upon anyone. I am merely pointing out that perhaps we do not understand exactly what it means for the public schools to take the raw product that comes to them and turn it out so as to be acceptable for use in our service. My own opinion is that we have no room whatsoever for criticism and that whatever we should say should be of praise and commendation.

Dr. Davidson has very properly stated and graphically depicted the wonderful expansion in the number of branches taught in our universities, secondary schools and primary schools. They have multiplied with the activities of our people. New branches have been introduced from time to time to meet the requirements of the increased number of activities. We have added tremendously to the burdens carried by our public schools and it seems to me we should be temperate in our criticisms and logical in our judgments when we come to consider the results they are producing.

Someone has said that the public school had its work to do and that the corporation school people and the business man should keep hands off. This is going to the other extreme. Dr. Davidson is not in favor of that idea. Educators want co-operation—the sympathetic co-operation of the business public. The educators in our public schools have their own problems to solve. They are solving them the best they know how but they want light from all angles and they welcome suggestions from business men or from any other one who can assist them.

I hope to see the time when in our discussions we will not hear one word of criticism of our public schools but when we shall see hand-in-hand co-operation between these two great educational forces for the improvement of the lives and the enlargement of the happiness and the joys of the people we come in contact with and whom we are trying to help.

MR. A. F. BARDWELL (The Yale & Towne Mfg. Company): I will not say much, but I want to correct the last gentleman, speaking of the conditions that he mentions, the fact of the cor-

porations having different material to handle. To be sure, their conditions are different than they are in the public schools, and I think that all the corporations so recognize it. He does not take into account in stating that the public schools have to take all kinds of children, that each and every one of those children have ability in some particular line, and the reason why the corporations are obliged to exclude part of those that they take in is due principally to the fact that the corporations have nothing that fits these particular pupils.

DR. HENRY C. METCALF: I had quite resolved not to say anything to-day, but some of the statements made here have stirred me a little, and I want to add a thought or two.

It is a great satisfaction to me, as this session of our meeting indicates, to see the business men and educators more closely coming together.

Would it not be more helpful if both the business and educational leaders stopped talking about "institutions" and centered thought and analysis more upon the boy and girl, the man and woman? What we all want—in both education and industry—is to discover, train, apply and protect human talents. This point of view brings us together and makes us one in all educational work. It makes business the great educational laboratory, and makes the formal educational machinery a preparation for the life vocations—what it should be.

The two points of view, that of the educator and that of the business man, may not at all times be the same, and they may at times seem contradictory, but they are in reality one.

Doubtless in the classification before us we are not all agreed as to just what are the fundamental items to go under a, b and c. Bodily integrity comes to some of us as absolutely fundamental, hence physiology is as vital as mathematics, reading and writing. Many business leaders are to-day giving much attention to physical examinations, personal hygiene, etc., but who are not always concerned about reading and writing.

So with the idea of civics, used in the broad citizenship sense. Many of us would regard such training as absolutely fundamental. My point is this: No classification of subjects is elemental, fundamental, satisfactory that does not clearly recognize fundamental human needs as those needs are expressed in the work relations.

MR. J. D. GILL (Atlantic Refining Company): Dr. Metcalf has led us, indirectly, to consider the matter of vocational guidance. And it is brought up very properly at this point, particularly in view of a remark made earlier in the afternoon, to the effect that there was nothing wrong, fundamentally at least, with the curricula in the public schools to-day, but that the trouble lay in the carrying out of the curricula. It would not behoove me to state generally, because of a limited experience, but in my opinion there are many teachers in our public schools to-day who are quite incapable of carrying out the work that is laid before them. By way of constructive discussion I ask this question, which might well be answered by those whose entire duties are along educational lines: would it not be well to determine a more accurate means, such as Dr. Metcalf will present to-morrow, by which teachers shall be selected for work in our public schools? We have all seen the task of instructing children taken up by many young women who had no other qualification than that their scholastic marks were high; who lacked personality, who lacked that vigor, that enthusiasm, which must be injected into the work, if it is to be carried on successfully.

MR. C. B. CONNELLEY (Dean of the School of Applied Industries, Carnegie Institute of Technology): I have only a minute, and can not answer the argument in that time, but I will say this to the gentleman—don't be discouraged about the incoming teacher. What has been stated is absolutely right, as applied to cases long gone by, but in Pittsburgh we had the courage to set aside \$10,000 for vocational guidance, the first city in the United States which has done that. The following year more money was appropriated in the effort to solve certain problems for the pupils in the schools and direct them in such a way that when they take up their apprenticeship work it will be in the right line of work.

The gentleman who spoke last was correct when he said that often the teachers have no other qualification for their positions than high marks—they lack personality. That is quite true. The vocational guidance system which we use now in the selection of teachers is coming into practice, not only in Pittsburgh and the State of Pennsylvania, but in all the other sections of the United States to such an extent that the teachers will be selected as other apprentices are being selected. We are making plans to have a

supervisor who will select the students for their life work, select the lines along which they are best fitted, but we must have a start.

We are now doing this, and I think every city of any size in the country should do it. We call in those who are directly interested to help us work out our curriculum, and if that is done more generally, much of the adverse criticism will have been removed.

The manufacturer to-day is realizing that, in order to get the best out of the people he employs, he must see the educator in that field.

The difficulty has been in all the large corporations in this country, and it is only within recent years that they want anything except tonnage. Talk "safety first" if you please, and they do the best they can in that direction, but when it comes down to the safety of a particular machine, the men pay little attention to it. Why? Because they are after tonnage.

But, conditions are improving, and it is a splendid sign. The educator is trying to help in that work. In this school we cannot graduate an architect unless a number of architectural designs have been submitted by the student to the Beaux Arts Society of New York and favorably acted upon. In the graphic arts, there is the most intimate co-operation. The Typothetæ, through their committee on trade education, meets with the faculty of our school frequently, thus assuring that the standards and methods of instruction will at all times conform to the needs of the craft. They see to it, moreover, that we get the right kind of men. Thus we are gradually getting somewhere in educational work and you in the manufacturing business are going to help us.

MR. MYRON J. JONES (Sherwin-Williams Company): It seems to me that out of this discussion this afternoon one vital suggestion has been made by Mr. Gray. It is the suggestion that if progress is to be made in revising the curriculum of our public schools to meet the needs of industry, there must be a closer getting together on the part of people interested in industry and the members of boards of education—particularly leaders in education. Cleveland in the past year completed a remarkable educational survey of public schools under the direction of the Cleveland Foundation, with Dr. Leonard P. Ayres of the Russell Sage Foundation, as Director. This survey has

brought together the representatives of industry and commerce and our directors of public education in a new way and has revealed to each their respective weaknesses and needs, and has been the means of solving certain concrete problems. A survey or any other method of getting together eye to eye on such problems is a constructive method of procedure.

Another thing brought out this afternoon which ought to be underscored, is the matter of bodily integrity, physical stamina, personal hygiene. We know that the weakest part of a school curriculum has been its instruction in personal hygiene and we know that in industry there has been tardiness to realize the importance of looking after the physical welfare of all of the working people. We are gradually being compelled to come to the new point of view and to recognize the obligation of the school and of industry to care for the health of their people.

Finally, there is this matter of the school as a selective institution. The school is not a mass proposition. It has the function of a selective educational institution. We are interested in that function—industry is interested in that function—for the greatest blunder is made at the port of entry, at the time of employment and industry suffers for its failure to put skill and common sense into the selection of men. We have mastered the problem of production—and we are just beginning to recognize the importance of human engineering.

These three things out of the discussion this afternoon have impressed me as worthy of our very serious consideration at a round table discussion. We do well to underscore the matter of education as a selective process, the matter of getting together on our common problems in industry and education; and too, on the vital matter of personal hygiene, physical stamina, bodily integrity as the basic thing for progress in industry or in the school.

THE CHAIRMAN: Mr. Fish, we would be glad to have you close the discussion.

MR. E. H. FISH: I shall only use a very few moments in closing this discussion, because I know you all want to get away, but two things have been brought out which I would like to call a little more attention to; one is a place for special education. In opening the discussion I suggested that the public school, or the public at any rate, is going to take up this subject, and it is

finding more and more things, railroad shops or various portions of industry, in which they will wish to have special education. There are many groups of considerable size, many of them representing less than one-twelfth of the population of the country, which require certain specialized instruction in public schools. The argument will be brought up by some people that the public school should not offer these specialized courses, because they limit the boy or girl in the choice of a vocation later on. That can be safely left to work itself out, because the present system of getting into a shop is so much worse than anything we can conceive of in public education that there is very little opportunity for criticism left.

Another thing is this: I have been trying to play a double rôle here, trying to represent two corporations, trying to be an educator and a business man at the same time, and I might as well do it a little further. I am a little disappointed that you have not torn this report up more than you have, and I am inclined to drop my rôle as Chairman of the Committee and take my place on the floor and tell you what I think about the report.

I feel that the manufacturers who responded to our questions made a serious mistake in leaving out so completely instruction in science, especially, and chemistry to some extent. Only about twenty-five of our replies favored the teaching of science in the grammar grade of the public schools. I do not know whether our people misunderstood what was meant. I listened carefully to the long list read by Mr. Kreuzpointner this morning, of the things which are taught in the continuation schools of Germany, and as I heard that list read I could not help but think that my small boy, fifteen years old, and in the eighth grade, has taken up many of these things, by writing for catalogues to the different manufacturers, and in that way of his own initiative has taken up the larger portion of the things under the heading of science which Mr. Kreuzpointner referred to. If a kid like that, almost hopeless in school, will do that on his own account, it seems to me the schools might interest him in doing that sort of thing, and doing it well.

The meeting then adjourned.

THE CODIFICATION COMMITTEE

Mr. HARRY TIPPER, *Chairman*
THE TEXAS COMPANY
New York, N. Y.

Mr. T. M. AMBLER
BROOKLYN UNION GAS COMPANY
Brooklyn, N. Y.

Mr. A. BLUMENTHAL
BING & BING CONSTRUCTION CO., Inc.
New York, N. Y.

Mr. K. W. WATERSON
AMERICAN TELEPHONE AND TELEGRAPH
COMPANY
New York, N. Y.

WEDNESDAY—MORNING SESSION.

THE CODIFICATION COMMITTEE.

WEDNESDAY MORNING, MAY 31ST, 1916.

PRESIDENT JOHN MCLEOD, *Presiding.*

PRESIDENT MCLEOD: The first business on the program this morning is the Report of the Committee on Codification, Mr. Harry Tipper, Chairman. In the absence of Mr. Tipper, it will be presented by our Executive Secretary, Mr. Henderschott.

EXECUTIVE SECRETARY HENDERSCHOTT: The President has asked me to briefly tell you what the Codification Committee has done. It has collected material from all of our members who were members at the time the report was made up, embracing I think, something like eighty different corporations. It has codified that material in three ways, by industry, by school and by courses. It is really an index, a codification, a very extensive work, and the Executive Committee last evening authorized its publication and all members will receive a copy as soon as we can issue it. It would be impossible, the Committee found, to print all of the material that is collateral to their index, but that material will be kept in the office of the Executive Secretary, and will be available upon request, to any member. It will be sent to them for their information, something on the circulating library plan, and will be returned to the Executive Secretary's office after reasonable time, and the next request will be taken care of in order.

The Government has repeatedly asked for this information, as it has many requests, not only from our own country, but from abroad, for information showing just what the corporation schools are doing, and this, of course, will be the first information that we have been able to give them.

I doubt if there is much more I can say, except that the Executive Committee has authorized the Executive Secretary's office to attempt to keep this information up-to-date, and to keep

in touch with our members, and as fast as they change their courses supply the working office with their new information, which will be substituted for the old. In that way, it will be possible for any member to secure such data as exists at any time relating to any course or activity of our members. I think, Mr. President, that constitutes the report.

At the request of your President, I wish to announce that the Executive Committee, at its session last evening, accepted the invitation of the Larkin Company, of Buffalo, to hold our Convention next year in Buffalo. (Applause.)

PRESIDENT McLEOD: As we are a little ahead of our program, we will take a recess for ten minutes.

COMMITTEE ON VOCATIONAL GUIDANCE

DR. HENRY CLAYTON METCALF, *Chairman*

TUFTS COLLEGE

Tufts College, Massachusetts

MR. ALBERT C. VINAL

**AMERICAN TELEPHONE AND TELEGRAPH
COMPANY**

15 Dey Street, New York City

MR. CHARLES R. STURDEVANT

AMERICAN STEEL AND WIRE COMPANY

Worcester, Massachusetts

WEDNESDAY—MORNING SESSION.

COMMITTEE ON VOCATIONAL GUIDANCE.

WEDNESDAY MORNING, MAY 31ST, 1916.

PRESIDENT JOHN McLEOD, *Presiding.*

PRESIDENT McLEOD: The next number on the program is the Report of the Committee on Vocational Guidance, of which Committee Dr. Henry C. Metcalf is Chairman, and he will now present the report.

DR. METCALF: The Report of the Committee on Vocational Guidance is divided into two parts. While the report has several sections or chapters, broadly it has but two fundamental aspects.

At the outset there are the ideals, or the fundamental conception and philosophy, that dominate the entire report. Secondly, and I imagine of greater interest to you gentlemen, there is the machinery designed to put the ideals into practical operation, to make these ideals a vital business asset. As one member of the Committee I do not wish to put forth any ideals that I do not feel can be translated into concrete service.

On pages eight and nine of the Report will be found the leading ideals for the employee, for employer, and for society at large. These are the three angles every wise business leader must keep in mind in the organic, harmonious development of his business. He must see to it that the normal human needs of each worker are conserved. This means that in the work relations bodily integrity, adequate income, steady employment, opportunity for instruction and training, a chance to express himself, make personality count, must be guaranteed every employee. This is the first broad fundamental ideal of the report—the conservation of the physical, intellectual, and moral integrity of every worker. We are firmly convinced that this is the best business.

From the employer's point of view this ideal for the employee in practice is exactly what is wanted. Every employer is

finance, sales, production, must be placed with equal power and influence the man who is to lead all these in the human interpretation of the whole plant. At present there is too marked a tendency to leave these most vital of all business problems to the understrappers. The best ability, training, and compensation will in the end prove the only wise business policy.

One of the big problems in industry to-day is to get this view of our problem in the minds of those at the top, that is, to fix in the minds of those responsible for the conduct of industry the right attitude. The right attitude in these matters at the present time is more important than aptitude. Given the right attitude, men and women will be quickly found qualified to care for employment, health, education and other problems now forced upon us through the human interpretation of industry.

PREFACE

This report is an attempt to set forth what employe, employer, and society should strive for in the human relations in industry—the realization of an organic unity in each individual life, in each business, between businesses, and between business and society.

As stated in the report of the Committee of 1915, vocational guidance in industry is the organic conception of the individual in industry, and is possible only through organic progress in industry; hence the sub-title of the report, "The Organic Development of Business."

The recent past has witnessed many noteworthy accomplishments in the human interpretation of industry. It would require a large volume merely to catalogue the most typical instances of this progress. Without the generous cooperation of many friends, and particularly of members of The National Association of Corporation Schools, who through correspondence, conference, and the valued privilege of first-hand investigation made certain industrial facts accessible, the report would have been impossible.

I can here express only in general terms my deep obligations to all, especially to overburdened business executives, who have so cordially contributed in material, time, and constructive suggestion. In addition to the direct support of Messrs. Vinal and Sturdevant of the Committee, my greatest aid has come from my research assistants, Miss H. Dora Stecker and Mrs. Margaret H. Abels, whose skilled services in collecting and in digesting raw material have been invaluable. On their loyal cooperation and counsel I have depended throughout the report.

HENRY CLAYTON METCALF, *Chairman.*

Tufts College, Mass.,
May 5, 1916.

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REPORT OF COMMITTEE ON VOCATIONAL GUIDANCE

THE ORGANIC DEVELOPMENT OF BUSINESS *

PART ONE

I. SCOPE OF REPORT

The report embodies certain ideals and suggests machinery for putting these ideals into practice in individual establishments.

1. IDEALS

The leading ideals of the report may be stated as follows:

a. What the employe ought to strive for in his work relations.—Every employe ought to strive for the realization of the organic conception of the individual in industry. This ideal realized in practice will protect the fundamental life interests of each worker—bodily integrity, adequate compensation, steady employment, instruction and training, recreational opportunities, justice, recognition, promotion, advancement, representation, and freedom in occupational choice.

b. What the employer ought to strive for in the work relations.—Briefly, what every employer wants is a healthy, competent, contented, loyal body of employes, i.e., the organic conception of the individual in industry made a vital business asset. The most valuable asset any business can have is the genuine interest of *all* its employes in the problem of the improvement of their *own* labor; the working out of efficient, just, harmonious relations is the most vital practical problem confronting business to-day. To establish, maintain and make workable these ideals is the foundation upon which the Association is laid.

These ideals will be best realized in practice by building up and attracting the most desirable applicants for work; by employing the best methods of selecting, placing and protecting employes, and by the best methods of instructing, training and retaining them.

* As stated in the report of the Committee in 1915, vocational guidance is possible only through organic progress in industry.

c. What society has a right to expect from employers and workers.—The fullest conservation of natural and human resources, and above all, a chance to make personality count. The keynote to this report is the wise distribution of responsibility and the opening up of avenues for the liberation of human worth.

2. MACHINERY FOR PUTTING IDEALS INTO PRACTICE

The report is concerned primarily with the problem of suggesting machinery for getting the organic conception of the individual in industry to operate efficiently in each firm of the Association. This calls for:

a. Clear-cut, specific organization, the creation of special departments, such as employment bureaus, and the redistribution of functions within the establishment.

b. Special educational machinery for instructing and training executives in the newer ideals and policies of the firm in relation to the problems growing out of introducing and developing the organic conception of the individual in industry, and for enlisting mutual confidence and cooperation.

c. Means for instructing and training all the employees in the newer ideals and policies of the firm in relation to those new problems, and for enlisting their hearty cooperation. The new ideals and policies cannot be successfully handed down from the top until the rank and file, through proper instruction and training, are prepared really to help carry them on.

II. THE ORGANIC UNITY OF THE INDIVIDUAL

In order to grasp the significance of the organic unity of man, we must bear in mind his many-fold interests. Every normal human being has a clearly defined number of life needs or interests. The work environment influences for good or ill these fundamental life interests more than any other kind of environment. For our purposes these life interests may be briefly set forth as follows:

1. BODILY INTEGRITY

Health, physical welfare, is absolutely the foundation of economic and social efficiency. Health is a matter of endow-

ment, that is, heredity. It is also a matter of maintenance, that is, environmental influences. If, then, health is so essential, how important it is that everything possible should be done in the work environment to prevent the undermining of bodily, intellectual, and moral integrity. Hence the significance of the physical examination of employes; the protection of all workers after they are in their positions; the prevention of accidents; and the control and elimination of occupational diseases. Our most progressive employers are beginning to realize as never before what a great asset it is to have workers who are well, and are earnestly striving to select able-bodied men and to keep them physically fit.

2. ADEQUATE COMPENSATION

Another normal human need is adequate income. This is absolutely necessary in order that a reasonable standard of life may be developed and conserved; and it is likewise necessary that this compensation be continuous, week in and week out, if this standard is to be maintained.

3. INSTRUCTION AND TRAINING

A third normal human need is a *reasonable amount of knowledge*; instruction is absolutely essential to a well-rounded life. When we realize the large number of employes in America today who cannot speak or understand the English language, and many of whom cannot read or write in their native tongue, and when we realize how this ignorance blocks progress in so many other directions, we see what a great problem awaits our industrial and educational leaders for solution. If we understand and utilize industry aright, there is no place in the world where so many and such fine opportunities to educate and train people exist as in the work environment. The business of life is our greatest educational opportunity. This means, if we go about it in the right way, that we have to select all grades of workers with reference to individual aptitudes, tastes, potentialities, and possibilities for growth and development, and instruct and train them accordingly. It means careful studies of opportunities for trying men out and for promoting them, and the keeping of careful, efficient records of accomplishment. It means in reality a *human interpretation of work*.

4. RECREATIONAL OPPORTUNITIES

The normal human being asserts individuality through the power of association. There is in all of us the innate desire to associate with others. The marked contrasts between earlier industry, when machinery was not so generally used, and our present specialized industrial mechanism, call attention particularly to the difference for social opportunities in the work environment. The men who sat at the cobblers' benches in Lynn, and other places in the earlier years, when they made a complete shoe, when they knew a shoe, when they knew their associates well, when they seriously discussed important political and social problems, present a striking contrast with the men of to-day in the modern shoe factory, where they can scarcely hear themselves speak, where the contacts are primarily with materials and machines, and where the human associations through the entire work period are so largely destroyed. There is a marked psychological outcome resulting from the differences between these modern contacts and the earlier human associations or relationships. The machine has destroyed much of the opportunity for sociability in the work environment. The machine has broken the brotherhood bond. How to guide and develop wholesome constructive leisure is a great modern industrial as well as social problem, and many employers are addressing themselves to its solution. Such an opportunity for sociability is a normal, human need, and through such opportunities one finds the finest avenues through which to give expression to personality and individuality.

5. ÆSTHETIC ENJOYMENT

The appreciation of the beautiful, is a normal human need. The good life is the beautiful life. The bad life is the ugly life. Place before the average human being the opportunity to enjoy the beautiful and the ugly and there is no doubt which of the two the average person will select. We are all familiar with those phases of the so-called welfare movement in which efforts are being made to beautify factory grounds, factory buildings, and the work environment generally. When we have carried this movement in behalf of beauty so far that art shall have become more generally a part of industry, when

we shall have democratized art, then æsthetic enjoyment will be wonderfully enhanced and a normal human need more adequately met.

6. OPPORTUNITY FOR A SQUARE DEAL

Finally, the most important of all fundamental life needs is a reasonable sense of fairness satisfied; that is to say, justice is an essential, normal human need. The consciousness of a lack of justice in many of the work relations is a fundamental explanation of much of our industrial and social unrest. How to realize justice in the work relations is the gravest problem confronting America to-day.

These normal human needs—physical integrity, adequate compensation, training and knowledge, appreciation of the beautiful, social opportunities, and justice are essential to a *life of freedom*.

In the human interpretation of business we should never forget that the final repository of all value resides in human personality, that personality is most fully realized in the work environment, and hence of supreme importance is the right kind of environment through which organic personality shall be realized, and therefore the great opportunity and tremendous responsibility of the business leader. Human welfare is within his keeping more fully, perhaps, than is true of any other type of leader.

Free occupational choice and fair occupational opportunity are absolutely essential to the realization of the organic conception of the individual in industry. This is the most important goal of economic and social endeavor.

III. CONCRETE ILLUSTRATION OF THE ORGANIC PROGRESS OF THE EMPLOYEE IN INDUSTRY

In order to give concreteness to the organic conception of the employe in industry perhaps we can do no better than to synthesize what should happen to the average normal employe as he progresses along his industrial career, especially with reference to a particular establishment. Social labor legislation will, of course, play its part in supporting minimum standards so as to protect his progress as he necessarily goes from place to place

in the same line of work, or, perforce, is obliged to change his occupation.

Such synthesis would give our worker:

1. FAIR KNOWLEDGE OF THE FIRM

In view of the growing emphasis placed upon individual quality in the workman and competition among employers for detailed knowledge of the employe, and since progress to the worker is so largely determined by his work opportunities, it is only fair that the worker should be given every chance to know accurately just what kind of job he is entering.

Hence it is instructive to note the growth of interest on the part of progressive employers in "Employees' Hand Books" and other means of acquainting prospective employes with the machinery in operation for caring for the total welfare of the worker.

WORKMEN LEARNING TO SELECT EMPLOYERS

Workmen are learning from their employers. They realize that employers are more carefully selecting workmen than ever before. They, in turn, are learning to select their employers more carefully than ever before. It is as important for the employe, for the business, and for society, that the employe should wisely select the employer as that the employer should scientifically select his employe. A right choice here may ultimately mean stagnation or advancement. It may mean a part in the business. It may determine whether the workman can own his own home or not. It may mean insurance against life hazards in one case and fatal breakdown in another.

Further, employes are chafing under what they call the "pressure of the system." They are realizing that scientific management and various types of efficiency schemes have not given them the opportunity for an all-round development that the normal man craves and is determined to have. They are analyzing all that the efficiency movement means and, in a striking number of instances, have successfully opposed the "pressure of the system." All this growing sense of personal dignity, of careful selection of employer, of opposition to "the

pressure of the system," indicates a growing appreciation of the meaning of the work environment.

2. FAIR TRIAL AT SELECTION

A fair chance at being hired depends primarily on the *fitness* for the work of those who do selecting, the *freedom* they are given in performing this vital function, and on machinery for selection. It can hardly be claimed that the scientific placing of employes has reached a very promising stage. The special preparation of those who are to perform this vital function and the recognition that heads of employment departments should be considered among the most important officials of any firm are urgent industrial needs. There are promising outlooks for a more scientific system of selection and hiring coming from the recent work in the field of vocational psychology.

3. ADEQUATE INSTRUCTION FOR JOB

Every worker has the right to be carefully informed as to the work expected of him, to have its possible rewards at the outset pointed out, to be trained so as to be able to progress at the job, and to have the possible openings for advancement charted. Progressive employers, as never before, are interested in training the rank and file.

Hundreds of men are now giving all their time to the special training of new employes at their specific jobs. This is especially true in factories where the gang or chain system of production—as in the automobile industry—is coming into use.

4. HEALTH PROTECTION

Every worker has a right to have everything done that reasonably can be done to insure physical integrity—careful physical selection, assignment to a job fitted to physical needs, all hazards reduced to a minimum, all sanitary arrangements standardized according to the best known scientific measurements, the best medical aid and nursing in case of illness, and a generally broad constructive "Health First" program that will insure physical integrity. Health, as already emphasized, is the basis of economic and social efficiency. A square deal in the matter of health

is fundamental in the organic conception of the employe in industry.

5. ADVANTAGES FOR LEARNING ABOUT BUSINESS

An employe cannot show his full worth, and hence become of the greatest value to his employer, unless he is given a chance to become a genuine part of the business, if he is better qualified than some one else to do so. To ascertain his *organization fitness* he must be given a chance to study and know the business. Great waste occurs in business because of lack of true appreciation of the wonderful flexibility and versatility in the average normal employe and of the great possibilities there are in industry, when once the attention is turned to it, for discovering and utilizing the true source of all wealth—*human talents*.

More attention than ever before is being given to this problem of training workers in more than one job, in transferring them from one department to another, in giving them formal instruction and informal opportunities to become acquainted with the varying demands of the business.

6. ADEQUATE ANNUAL COMPENSATION

Life is largely measured in terms of income. Vital, then, is it in a fair deal with the worker that he gets for his annual income sufficient to support himself and those dependent upon him. He cannot measure his income needs in terms of short periods unless he is assured *regular* employment. The whole movement of legal machinery in behalf of minimum pay standards, is based upon the breakdown of the individual contract.

Progressive employers are realizing the life-meaning of the minimum, and are manfully meeting it by so training their help at the start, so understanding their job requirements, and so progressing their workers as to enable them to support themselves in comfort, and at the same time increase the output of the business. They are verifying the economy of high wages, or in the language of the human interpretation of industry, they know that it is good business to *make men dear and goods cheap*—the most important business and social maxim a people can practice.

business must be given a chance to get together, those higher up with those below, those in the middle with those above and below, and those below with the groups above. Only in this way can we hope to develop organization fitness and strong group action. It is the right of every worker, and essential to the organic conception of the employe in industry, that all should be privileged to participate in those activities which develop initiative, self-respect and intelligence. This means cooperation within and without the firm, functioning through machinery moving in various reasonable directions—committees on employment, safety, health, welfare, recreation, athletics, and similar activities.

Here, then, in synthetic outline, is a concrete picture of the worker at his job from start to finish, having an adequate starting knowledge of his prospective employer, fairly selected for his job, instructed in his work, guaranteed bodily integrity, given a chance to learn the business, justly remunerated, working reasonable hours, surrounded by machinery designed to keep open channels, assured that merit will win, and freely and fearlessly taking part in all those activities that awaken, train and develop personal power.

The quintessence of all these endeavors is that it depends for its sanction and authority, not upon any abstract theories of rights, duties and privileges, but upon the common convictions and feelings of the rank and file that they have a vital interest in the problems to be worked out and are entitled to a fair share in the gains and honors of the solution thereof.

The implications to the employer of this organic conception of the individual in industry are many and far-reaching. We do not regard it as necessary to re-emphasize in any extended manner the human element as it bears on the cost of the turnover, on work efficiency, and many other phases of the problems of business administration. The report of this committee last year dwelt upon these aspects of the problem, and the economic, business and social literature of the current year has dealt fully with the need for "humanizing industry."

It is assumed that the next desirable step by which the Committee can best serve the Association is the formulation of ways and means for putting the organic conception of the individual employe in industry into practical operation—to make it of real working value. This is why elsewhere in this report so

much emphasis is placed on the *machinery* for getting this organic ideal across. Before any specific measures can be inaugurated in an establishment, there must be some reorganization—it may be slight, it may be considerable, varying according to the needs of the individual firm conditions. Such reorganization is particularly needed along the lines of more centralized employment machinery, and the care of the human relations generally.

Such reorganization will be found in actual practice to be absolutely essential before particular features regarding such problems as careful analysis of the labor supply, scientific selection of workers, proper placing at work, and analyzing the job so as to understand all its many-sided meanings can be installed with any fair degree of satisfaction.

The best diagnostician in the world, however, and the best business organizer cannot go very far in helping solve these difficult, delicate and complicated problems unless those who *administer* business have the right ideals of the business organization, are properly instructed and trained in the newer methods, and are *sympathetic* with the newer point of view.

IV. SOME GENERAL CONSIDERATIONS BASED ON PERSONAL INVESTIGATIONS

1. EVIDENCE OF AID DESIRED BY BUSINESS LEADERS

The Chairman of the Committee on Vocational Guidance and another member * of the committee made a tour of investigation during the first part of February of this year, visiting a number of individual firms in New York City, Cleveland, Detroit, Chicago, Pittsburgh and Philadelphia; and the Chairman has throughout the year been personally in close touch with a number of other firms in the East.

During this tour of investigation the Chairman came into personal relations, by means of conferences and addresses, with over two hundred men and women, including presidents, vice-presidents, general managers and executives of all grades. In every instance there was a keen interest in the significance of

* Mr. A. C. Vinal, of the American Telephone and Telegraph Company.

the human relations in industry and a deep appreciation of it. Everywhere there was an earnest desire to know and a cordial willingness to extend assistance. The determination to learn what is going on elsewhere in these matters and the cooperative willingness to aid others is one of the most helpful tendencies of the times. This helpful exchange of experiences was the chief idea in the founding of The National Association of Corporation Schools.

All progressive employers are seeking constructive criticism. The older attitude of semi-hesitation and secrecy is rapidly giving way to a ready willingness to pass along to responsible persons the procedure, methods, machinery and results known to be worth while. The National Association of Corporation Schools has a great opportunity for constructive service to the members in capitalizing this experience and cooperative spirit. Indeed, several good firms are now looking upon their plants as laboratories for the study of these new problems, not only by their own people but by properly qualified outsiders.

The growing appreciation of the business value of the right understanding and treatment of the work force; the increasingly correct estimation of the social responsibility of big business; a realization of the intimate connection between the neglect of the human values in work and industrial unrest and wasteful friction; a growing sense of the business value of a genuine humanitarian sentiment; the new business philosophy "do it because it is right"; an increasing appreciation of the business value of courtesy to employees—all indicate the tendency to evaluate these attitudes as definite business assets.

2. INTEREST IN THE ORGANIC IDEAL

Many of these business leaders are not only interested in the organic human ideal; they are thinking hard on its many phases; they are usually cautious, realize that they must move slowly, "prove all things," but they are thinking and planning in terms of the organic. This is strikingly true in firms like the Edison Companies, the Joseph & Feiss Cloth Craft Shops, the Printz-Biedermann Company, the Western Electric Company, the Westinghouse Companies, the Fore River and Newport News Shipbuilding Companies, the Dennison Manufacturing Company, the Plimpton Press, the American Telephone and

Telegraph Company, and the German-American Button Company. These, and other progressive firms, while they vary in the extent and direction of their undertakings, see clearly that the organic conception of the employe must include work, income, food, home, sleep, training, protection, recreation—the *total life of an efficient, contented human being—in work and out of work.*

It is this organic conception that has caused many of our business firms to tie up in more centralized employment and service bureaus the problems of selection, safety and health, instruction and training, and general welfare.

3. COOPERATIVE CONTROL OF WORKING FORCES

There is a clear tendency among these progressive firms to get away from the old-type autocratic one-man rule and substitute therefor the functionalized and cooperative committee system. This larger flexibility in management is manifesting itself in a wide variety of ways.

It is seen among the executives not only in finance, sales and production, but strikingly in the large numbers of committees caring for a wide variety of the problems growing out of the human relations, such as employment, safety, health, standardization, wages, etc. These committees sometimes are within departments, sometimes they are inter-departmental. They are often among executives themselves. Sometimes they are between executives and the rank and file, as in case of advisory boards on employment, courts of appeal, wage standardization boards, etc., and others are often among the lower groups only.

Sometimes one finds a detached, functional specialist who is free to go and come anywhere, anytime, who seeks to discover error, friction and waste, who offers constructive criticism and suggestions to higher officers, who, in a word, takes over many of the duties heretofore performed by head officials.

In reaching decisions on all the numerous questions affecting the welfare of employes and hence the welfare of the entire business, there is a decided interest in giving employes a definite share in the inception, guidance and control of new plans. In the important problems of creating boards or committees for the analysis of work requirements; in working out

standards of performance; in the determination of wages; in the creation of machinery affecting the discipline and working conditions of employes; in the conduct of the social and so-called welfare activities of the concerns; and, above all, in the vital matter of creating machinery for handling grievances, there is an earnest desire to have the employes *more and more demand* these improvements, and in good faith join wholeheartedly with the management in their organization and functioning. One large concern visited, where they have created very helpful machinery for handling grievances, is carrying on a campaign of education for the purpose of *creating a desire* in the employes for these betterments.

4. MACHINERY FOR THE EXCHANGE OF EXPERIENCES

Everywhere there was expressed the earnest desire to have an efficient clearing-house established in our Association that would effectively gather, evaluate and pass along helpful assistance in the understanding and solution of our problems. It was felt that the fundamental purpose of the Association in the collection, evaluation, and dissemination of helpful procedure, method and results had not as yet been realized.*

This desire for cooperative assistance was expressed to the writer from several different angles. Some employers were using the services of labor analysts, industrial advisers,—experts in this new field. Moreover, some expressed the earnest desire to have young men who had had some business experience return to college and take special courses designed to fit them for the new duties, such as the new course on employment problems offered by Dartmouth College.† There were a number of such progressive employers in Cleveland. Others want more formal and comprehensive training arranged in the colleges to fit the college graduates for the newer work. But all were earnestly asking for greater assistance from our Association.

* In the fields of apprenticeship, employment, and scientific methods of selection, special organizations for studying these problems have recently been launched. The latest of these is the New Bureau of Salesmanship Research, to be devoted largely to devising scientific methods for selecting both salesmen and executives. For details concerning this Bureau, see Appendix I, p. 364.

† For a revised outline of this course, see Appendix VII, p. 407.

5. CHANGED ATTITUDE OF ENGINEERS

One of the most significant aspects of this whole problem of the changing relations between materials and men is the changed attitude of the engineer. All over the country the *real* engineers are no longer giving the same relative attention to the *technical* side of the engineer's training. What is now demanded of the engineer in industry is those characteristics that indicate broad intelligence. And this demand is having a decided influence in modifying the policy of our engineering schools.*

This is a most significant and wholesome tendency. The engineer is fundamental in all industrial advance, but the growing consciousness of such a vital group in the problem of self-analysis, self-improvement, and self-direction opens up large possibilities. It is a most wholesome and promising attitude. Clear evidence of this changed attitude on the part of engineers is reflected in the recent numbers of the Engineering Magazine.†

6. LESSONS FOR THE ASSOCIATION RESULTING FROM THE WAR

Employers everywhere are vitally interested in the effects of the war on labor. More and more it is being realized that the war is fundamentally an economic struggle,—not a conflict of soldiers so much as a conflict of mechanics. It is fundamentally a battle between the business leaders—bankers, manufacturers, etc.

A period of much economic and social unsettlement and perplexity is sure to follow in the adjustments to the new conditions after the war is over. A highly inflated currency, the crushing overburden of the masses with enormous debts, the appalling and wanton destruction of European resources, cannot fail to force upon the entire world the necessity for far-reaching economic and social readjustments.

But important as these considerations are, there are other sure effects of the war of more immediate practical significance for our Association.

* A new course, "The Human Side of Engineering," which the Young Men's Christian Association has formulated, and which has won the approval of a large number of engineers, is to be adopted by several engineering schools. An outline of the course has been kindly furnished by Fred H. Rindge, Jr., Secretary Industrial Department, Y. M. C. A.

† See especially issue for April, 1916.

Evidence reaches us that first-hand study from the records of steamship and railroad officials indicates the return to Europe at the close of the war of at least 500,000 people, with little or no evidence of incoming numbers to balance this loss. Hence the importance of plans to train a skilled body of workers. Plans looking to this end are interesting all employers.

The institution of factory classes for foreigners is only one bit of evidence to indicate that we cannot longer rely on large numbers of untrained laborers as we have done heretofore. After the war the world as never before will be forced to get down to bedrock. Real, not fictitious, values are sure to rule—to the scientists and those who have a deep understanding of the human, business will more and more belong.

We are charged with grave military unpreparedness; the charge may be true. To the writer the most vulnerable spot in the whole military-political-economic situation is the ominous fact that American business management is facing a grave *psychological unpreparedness*.

Those who grasp the true psychology of the present situation and help build our future administration of business on sound psychological lines will do the most to prepare the country for all aspects of future aggressions.

Strife between the autocratic and democratic ideals in politics is bound to increase and extend to industry. Here we must not forget the real popularity of the autocratic ideal. All men like leaders. The *real inequality* in talents gives wide credence to the autocratic ideals. Habits and public opinion are based on autocratic notions and habits and public opinion rule.

Against this ideal is the growing co-operative movement—recognizing great inequalities in men, but firmly believing in *capacity for growth*, and determined to work in the direction of self-analysis, self-development, and self-control.

These social-industrial turmoils will not down. They cannot be ignored, evaded, passed by, repressed. There is just one way to get away from them—*solve them*. Might will never win in the end in these industrial disputes.

In view of the keen interest of all our business leaders in these problems of control and consent, it is not surprising to find a wide interest in machinery for caring for these problems.

Here is *the* great problem of the future—in business as well

as in government. Here is our great psychological unpreparedness.

7. SUMMARY OF GENERAL CONSIDERATIONS

In laying emphasis upon these general considerations—the rapidly growing interest in the human relations in work; the grasping in business of the organic ideal; the open, friendly give-and-take spirit; the definite, helpful cooperative arrangements with our educational institutions; the rapidly developing scientific and human spirit in business, evidenced through the demand for the expert and the deep interest in experiments in industrial cooperative control; the searching efforts to anticipate and prepare for the readjustments certain to follow the war, we see clearly that business is being recognized as the all-correlating life fact of our time, in which the sovereignty of the normal individual must be realized.

V. WHAT A LARGE CORPORATION* HAS DONE TO DIAGNOSE ITS HUMAN RELATIONS†

It is of the utmost importance that every firm should know just where it stands in the problems of its human relations—know just what its cooperative strength is, just what team reliance it has. In order to be thus fortified, careful, continuous, scientific studies must be made of all the many aspects of the problem. In this way only can the capacity and adaptation for cooperation in these matters be known. Every employer should card-index his team strength in order to be able to know and to summon it into active service when needed.

1. IMPORTANCE OF SELF-ANALYSIS

In order to illustrate concretely sound procedure in these problems, the following brief outline of what a prominent Class "A" member corporation has recently accomplished is given.

The first thing the company did, beginning in September,

* Class "A" member, National Association of Corporation Schools, employing about 5,000.

† A somewhat similar procedure in studying its industrial relations is being carried on by another firm engaged in the same line of business.

1915, was to have an analysis of its human relations made by an outsider, whose specialty is in this field. A report in writing of his conclusions and recommendations was handed to the president in December last.

The common condition of decentralization regarding most of the problems treated in this report was found to exist. The study of the labor market, building up a desirable source of labor supply, selection, promotion, discharge, wages, and other phases of the problem, were widely distributed in authority. Any genuine cooperation regarding these various aspects of the problems affecting the workers was lacking.

Recommendations along the lines essentially advocated in this report were placed before the president in writing. These recommendations called for a careful study of the labor market; the building up of a carefully selected source of labor supply; the creation of more centralized employment machinery, assisted by advisory boards, and manned with a well-qualified leader, assistants and clerks; a careful selection and placing of employes; a study of the work requirements and a true record of the same as aids to scientific placing, transferring, rotating, promoting and discharging employes. Much emphasis was given to the business value of health conservation; hence recommendations were urged regarding the significance of physical examinations, periodical examinations, the right kind of safety first and medical organization—briefly the anticipation and prevention of health hazards of all kinds. The far-reaching business values of the right educational procedure were dwelt upon and machinery outlined for putting this procedure into practice.

Briefly, the recommendations sought to *enlighten* with reference to conditions and needs, and emphasized the necessity of *leadership*, first at the top and then among the rank and file in order to bring about a real partnership in the understanding and solution of the problems.

Real conditions about the human relations were not adequately known. Even with fairly well centralized employment machinery, it is more and more being realized that elaborate reorganization is necessary through committees and boards of various kinds to find out what is going on and what should be done. All these human relations problems demand close study of one's own firm and the diffusion of the knowledge thus secured.

The starting-point in the procedure, then, was *self-investigation* with the assistance of an outsider.

2. THE NEED OF EXPERT ASSISTANCE

The need of initial surveys of conditions by an expert and diagnosis of the organic relations is due to several circumstances

a. Under modern large-scale management, with the many complex divisions and subdivisions of work and authority, the size of a firm usually prevents one part from knowing what the other part is doing. The men on the inside, daily living in the same situations and conditions, are too close to get a true perspective. They do not see their needs. As a rule they are not trained to observe the human relations and the conditions about them certain to affect these relations. Many broad-gauge men, fine observers of machines, materials, and processes are almost oblivious to the human relations. They are not trained in the right attitude toward these newer problems which require an appreciation of psychological forces—a deep sympathetic understanding of human nature. A man on the job all the time cannot easily get an objective, organic view of the system in which he is living and working.

b. Departmental jealousy very generally stands in the way of the organic conception and its functioning in industry. This jealousy is a real menace to industrial efficiency and harmony. It is common throughout all work relations—education, politics, and business.

c. The labor expert is often needed to supplement the work of other efficiency specialists. This is true even in the case of plants under the Taylor system of scientific management. Scientific management we now know has not fully caught the vision of the *organic nature of human relations* in industry. There is much justice in the criticism of the narrowing influences in the shops under scientific management. We know of some firms under scientific management where men trained to observe and understand the human relations have been called in to supplement the work of the scientific management experts.

It is necessary where the right attitude on these matters has not been developed within a plant, to start the men along such lines in order to have the problems worked out in the manner suggested by the expert. This is a far more effectual system in

the end than introducing the new system by outsiders and having them try to carry it along for years almost independently of the organization, of which, to be of real value, it must ultimately become a vital part. The only kind of really effectual, permanent help is the assistance gained by one's own developed force.

Now this method means, first, a careful study of one's own conditions and of good results worked out elsewhere; then the diffusion of this knowledge among the higher groups; and ultimately, the instruction and training of the entire work force, so as to get their interest and cooperation in the new problems.

The procedure thus far described is purely preliminary: *to put the organization on the right track*. This done, it is for the firms to study their own problems.

3. GETTING IN TOUCH WITH OTHERS

This method of procedure was wisely adopted by the president of the company cited. He realized the helpful value to his company of having his men go out and see what others are doing along the same lines, and return with a new vision, fresh ideas and enthusiasm.

After careful study of their own needs, and the preparation of lists of questions dealing with topics to be investigated (organization of employment offices, various methods used in employing, transferring, rerating, promoting, discharging, kind of help including nationality, hours and wages, apprenticeship system, safety work, welfare work, and other allied topics), six men (four foremen and two detached men) were sent out by the company early in February to investigate these problems among progressive firms in Cleveland, Detroit, Akron, Columbus, Dayton, Pittsburgh and Philadelphia.

The following firms were visited and most cordially cooperated with the committee in every way:

Cadillac Motor Co., Detroit.
 Carnegie Steel Co., Pittsburgh.
 Chalmers Motor Co., Detroit.
 Cleveland Foundry Co., Cleveland.
 Cleveland Hardware Co., Cleveland.
 Curtis Publishing Co., Philadelphia.
 Dodge Bros. Motor Co., Detroit.

Ford Motor Co., Detroit.
 Goodyear Tire and Rubber Co., Akron.
 Jeffrey Mfg. Co., Columbus.
 Link Belt Co., Philadelphia.
 National Cash Register Co., Dayton.
 Packard Motor Car Co., Detroit.
 Sherwin-Williams Paint Co., Cleveland.
 Westinghouse Electric and Mfg. Co., Pittsburgh.

At the end of two weeks the committee returned with a most valuable mass of first-hand material, an enlarged vision of the significance of the problems of the human relations in business, and a fund of wholesome, constructive enthusiasm that is proving a vital force at the home company.

The committee for its own needs then gave some weeks of most intensive study to the careful, methodical arrangement, analysis and evaluation of the material and experience gathered in its tour of investigation. A summing up of its experiences and recommendations deduced therefrom, dealing with the establishment of an efficient employment bureau, a court of appeals, courteous treatment by all heads of departments and their subordinates, careful follow-up and grading, if possible, for efficiency, adherence to policy of promotion from within, pensions, good working conditions, welfare work, including lunch-room, visiting nurse, medical staff, stores, works paper, and recreation, was printed in a twenty-three page pamphlet.

The report closed with this wise sentence: "In order that many of the suggestions be successful, it will be necessary to have the entire cooperation of the foremen and all heads, and they should become acquainted with the object and findings of the committee."

Accordingly, the president, earnest in his endeavor to secure the enlightened cooperation, leadership, and actual partnership of his men in handling their new problems, wisely sent out copies of the committee's report and recommendations to all the executives, foremen and leading men (169 in all)—men who had others under them—asking them for their suggestions and criticisms.

4. SUGGESTIONS AND CRITICISMS COMING FROM THE MEN.

The response was generous and is proving of the greatest value in the handling of the new problems. Nothing is more helpful than to have groups attack these large problems of organization and functioning *cooperatively*. By this method of procedure the men learn a great deal about their own business and about other firms on the outside. This kind of contact on the human side is sorely needed in modern industry to offset the specialization of function and to give broader vision of the whole industry. It develops organization fitness.

These responsible officers returned many helpful suggestions regarding an enlarged employment bureau and more careful analysis of quits, discharges and transfers. Many good ideas about a court of appeals came forth from all grades of executives; promotion from within was emphasized; welfare work should have absolute support of foremen and subordinates; and many helpful ideas on education, health and safety were suggested. The problem of pensions was given special stress, the men realizing its great importance and recommending a special committee to investigate the matter of installing a pension fund. It was likewise recommended that a special committee be appointed to study the problems of employees' homes.

Some of the attitudes on these problems, reflected in this valuable fund of information, were most suggestive and helpful. Many of the men suggested that *general meetings* should be held for discussing the larger phases of the problems—where all were interested. This procedure has clearly shown what a fund of cooperative leadership there is in industry and how readily the team-work spirit responds when it is gone after in the right way.

5. PROGRESS OF WORK AND RESULTS

Up to the present writing (May 2, 1916) the following results have been accomplished, due to the new methods; and doubtless when this is being read, further good results will have been reached:

- a. Centralization of employment into a bureau, with an employment committee and a new employment clerk, and with plans for a better physical equipment for the work. An analysis of

labor turnover and the classification of labor have been begun. A new employes' handbook is being issued.

b. Reorganization of health protection. Enlarged medical staff, with visiting nurse added. Hospital to be constructed in the near future; reorganized safety work; a lunch-room added.

c. Educational work extended; circulating library put in; reorganization of house organ.

d. Reorganization of suggestion committee.

e. Organization of company club; club house to be built shortly.

f. Plans for housing employes.

g. Annual field day.

This, then, was the method of procedure:

a. Finding out through personal investigation and conferences throughout the company by an outside adviser where the company stood.

b. Investigating committee from the company laid bare further facts and went outside to study what others were doing.

c. Executives, superintendents, foremen and leading men contributing what they knew.

d. The next stage is to diffuse all this helpful information among the rank and file. This is going forward at the present time, and is full of promise.

VI. SUMMARY

Briefly summarized, the goal of enlightened business policy in regard to its workers is to develop a healthy, competent, contented, loyal body of employes, working in genuine unison and cooperation because convinced of a right spirit existing at the top; and because they see and feel all about them the careful, thoughtful and scientific organization and functioning of opportunities and interests of such an appealing and compelling nature that they cannot help but respond.

A statement of the more important means through which an organization can function constitutes the second part of this report.

PART TWO—SUGGESTED MACHINERY

I. CENTRAL EMPLOYMENT AND SERVICE BUREAU *

1. FUNCTIONS OF EMPLOYMENT BUREAU

The chief functions of a properly organized and directed employment bureau are:

a. Understanding the labor market and attracting desirable applicants. This will result logically from the conditions within the industry and the ways in which this information reaches the public.

b. Increasing the average length of service. The cutting down of the costly turnover and building up an efficient, contented work force results from many phases of the Bureau activities developed throughout the report.

c. Tying up the human welfare relations of the entire plant. This calls likewise for the understanding of much that is elaborated throughout the report—the right kind of policy and organization at the top; the cooperation between those at the top and the rank and file; all sorts of arrangements among the rank and file for expressing themselves; various means for instructing and training in the capacity for, and in the habits of, cooperation.

This vital function of cooperation, tying up the human welfare, cannot be over-emphasized. Our work at all points—in health, educational procedure, grievance machinery, and elsewhere—has constantly emphasized the importance of *anticipating* troubles and losses of all kinds, in order to *prevent* them. *Prevention is impossible without cooperation.*

The lack of cooperation in industry is due largely to decentralization in dealing with questions of employment. This is the fundamental weakness in the whole employment problem. It may be justly said, as a general proposition, that, as regards employment, there is no real leadership at the present time.

* This bureau might properly be considered a Department of Human Relations. For an account of what one firm has accomplished through its Employment Department, see Appendix III (p. 382), describing the work of the Dennison Manufacturing Company.

Highly diffused and scattered responsibility characterizes and complicates the whole situation. It is difficult to over-estimate the extent of this diffused responsibility. The presidents, vice-presidents, yard superintendents, employment clerks, doctors, leading men, boarding-house keepers, and others—all have a share in employment and there is a general recognition of the very serious waste flowing from this decentralization.

Decentralization being the fundamental weakness, the direction in which the remedy should point is obvious. Many lines of endeavor will be necessary, each helping and influencing the others in establishing the right kind of cooperation throughout each firm.

First is the creation of a well-thought out, centralized employment and service bureau, and the gradual transfer to the centralized employment bureau of a large part of the present scattered and disconnected employment plans and methods. This is absolutely essential if the proper functions of employment are maintained.

This centralized employment and service bureau should be regarded as the headquarters in every firm for all the vital problems centered around the human relations. Through this centralized bureau should function all the fundamental problems having to do with the selection, hiring, promotion, and discharge of workmen. The many vital problems concerning the physical welfare of employes, including the work of the medical staff, the problems of accident and occupational disease hazards, and all those features that have to do with what is commonly called "Welfare," in a word all the problems that have to do directly with the physical, intellectual, and moral welfare of the worker, should be tied up in this bureau.

2. ADVANTAGES AND RESULTS OF CENTRALIZED EMPLOYMENT BUREAU

a. *To disseminate information*

A very important service of the centralized employment bureau will be to bring together into a compact form and disseminate highly desirable and useful information. At present employes too generally come to employers without any guidance whatsoever. There are no sources of information with reference to what is

going on in individual firms, what the managements expect of those who come in, what opportunities are open to them, etc.

Employes' Handbooks should define the policy of the company both in its relations with the public and toward its employes. They should contain a brief, clear statement regarding applicants for employment, health inspection, work hours, attendance and punctuality, absence, overtime, vacations, the "safety first" work, the significance of the workmen's compensation movement, the importance of personal hygiene, including care with reference to occupational diseases, the borrowing or loaning of money, an account of athletic and recreational activities, general external welfare features, old age pension plans, employes' savings fund, systems of promotions, company library, opportunities to learn English, and any other fact regarding the policy of the company which an employe should know.

Such a guide book is of the very greatest service and is absolutely essential for the proper direction of employes, and will do a great deal to concentrate attention in the right way on the part of all to the improvements to be inaugurated.

b. *Centralizing knowledge of all workers and unifying all parts of the labor problem*

Since the great difficulty with reference to the employment problem is marked decentralization, constructive remedies must look in the direction of unifying the different parts of the labor problem. Just as there must be a common medium through which all that relates to production must flow, so the head of the employment bureau should be the center of knowledge regarding all the human problems. This unifying of the different parts of the labor problem will do a great deal to give the right attitude toward the many-sided aspects of the human relations.

c. *Satisfactory sources of labor supply*

Centralized employment machinery is essential to the establishment of more complete and satisfactory sources of labor supply. We have found that centralized employment bureaus have worked out very progressive and satisfactory methods with reference to securing the most desirable applicants. This is done in a variety of ways, through written questionnaire, direct

personal examination, documentary evidence, close connections with promising sources of supply, such as heads of technical schools, technical periodicals, graduating class lists, visits to schools and colleges, newspaper advertising, comprehensive methods of correspondence, employment agencies, etc.

Mobilizing the labor market, then, is one of the chief functions of a properly constituted employment bureau. This careful study of the labor market gives wholesome, retroactive influences on applicants for employment. When it is known that the labor market is being carefully studied, that the right kind of sources of supply are being reached, a wholesome check is put upon the inefficient and those who should never present themselves for employment.

d. *Qualifications and records of applicants*

Equally, if not more important, is the necessity of a centralized employment bureau's having up-to-date service records for every employe in the plant. The life history of an employe as time goes on proves to be of the greatest service in many ways. Men are far more careful when they know they are being systematically and justly checked. Much waste in this way is prevented. When it becomes known that each weakness is evident, a wholesome, preventive check is established with reference to many forms of waste, friction, and injustice.

At present it may be truly said that in many plants in the country, the employes are primarily in control of the employment situation. The machinery here suggested will reverse this situation. Employes should be controlled, that is, wisely led. A service record is absolutely essential to the right kind of employment leadership. We have found a number of firms carefully keeping such centralized service records.

Among other things these service records, developed by a well-trained employment staff, will contain much valuable information regarding the different aptitudes of the employes. Hence such bureaus are capable of doing a great deal by way of helping employes choose the right lines of work. This is fundamental in an organization that is trying to build up a stable, effective work force, and is absolutely essential to efficiency in the case of youth. These records aid greatly in free, wise choice of vocation.

e. *Selecting workers—Methods*

The successful selection of workers is perhaps the most difficult task of the whole employment problem. It calls for the right personnel and the most carefully adjusted cooperative machinery. Scientific employment demands the intelligent, sympathetic cooperation of doctor, employment supervisor and assistants, heads of departments, and all those responsible for the guidance and protection of the workers. Proper employment blanks, a good employes' hand-book, and a knowledge of the fundamentals of psychology will assist the employment manager greatly.

There are many methods of selecting employes to-day—among them the old try out method, which is costly; the observational method, which is successfully used by skilled, experienced people; and psychological tests.

Psychological tests are being used more and more by progressive employers in the selection of their employes.* The need for these tests is to measure ability, so vital in employing and promoting; to fix standard time of work operation; to measure attention, sight, delicacy of touch, and to detect fatigue, the knowledge of which is so important in reducing nervousness and ascertaining efficiency periods for work.

f. *The study of individual aptitudes*

The study of individual aptitudes in the up-to-date employment bureau is receiving much attention. Nothing will do more than this study to eliminate undesirable employes. Proper data which can be gathered only from the right kind of application cards, from the cards of the eligible applicants, from the cards of those actually employed, are of the greatest importance in a scientifically organized industry.

This means, of course, that careful, *general* employment blanks should be prepared and special blanks for specialized departments. It calls for careful, direct examination by competent clerks of applicants coming to the firm, a careful method of recruiting, and a careful follow-up system after employment.

* For an account of methods of selecting employes by means of quantitative determinations, by Professor Walter Dill Scott, and of the new bureau of research, under his direction, for working out scientific tests for selection, see Appendices I and II, pp. 364, 367.

At present, fitness for work is not generally known. The wasteful practice of being discharged from one department often means a loss of efficiency, as does the entering of another department by the unknown person where he is as much out of place as he was in the original position. The waste resulting from the costly turnover is too well known to need further emphasis. It is generally recognized on all hands as one of the most serious sources of loss to the industry. A centralized bureau would do much to check this needless waste.

g. Analysis of work requirements

Another important function of such a bureau is the study and gradual accumulation of information regarding the needs of the different departments, or what is commonly called job analysis. Placing or adaptation cannot be scientific without a thorough knowledge of the different work processes. This is one of the most difficult and fundamental parts of scientific employment. It calls for a knowledge not only of the different processes and departments, but also of the possibilities of transfer and normal lines of promotion.

A centralized bureau having such definite information and interested in the welfare of every employe, always striving to develop the men, will study and work out records of the different departmental needs and the definite lines of promotion. There is much complaint in work relations, and much of it justified, because the workmen are held in positions too long.

Promotion is several fold—advancement in wage, advancement in position, or recognition in other ways. Under present decentralized employment systems, it is sometimes regarded as not good form for one foreman to “steal” men from another department. This choking process, which is clearly traceable to the present decentralized employment and promotion machinery, makes men feel that there is little use in striving, and hence it lowers efficiency. Hope is gone. A centralized bureau will do a great deal to reduce this source of waste. It is difficult to overestimate the business value of the motto “Merit will win.” There should be instilled in the minds of all the employes the fact that the company is determined to practice the principle of full, honest promotion on the basis of *known* merit.

But to know the promotional values of the various positions

presupposes a knowledge of all the various work needs. This analysis and classification of all the occupations is one of the greatest opportunities of a centralized employment bureau and is absolutely essential if we ever are to have the scientific adaptation of tasks to aptitudes.

h. Educational value of the job

The educational value of the job is a most vital factor in the training of the average workman. It becomes highly important, therefore, that the educational value of all the operations and processes in industry should be known. These processes are being carefully tabulated, coordinated, analyzed, and utilized constructively.

From this material thus collected some of our best educational manuals in industrial plants have been built up. The progress of the young worker is carefully watched and examination made to determine upon the thoroughness with which he masters each detail connected with his position. In this way less and less supervision is required as experience is gained and, as a consequence, the value of the apprentice as he advances becomes permanently increased. Ability is clearly discovered and developed in this way. The ability to carry responsibility is the goal to bear in mind in the supervision of all juvenile workers.

One of the chief tasks of scientific employment, then, is to gather a fund of useful information along vocational lines that will be helpful for all the workers and that is of inestimable value in the case of apprentices.

i. Control compensation

A well-conducted employment bureau will make a careful study of the various aspects of the wage problem, know the market rates for the work in the various departments and be familiar with the different aspects of the wages problem, which is vital to a wise handling of the human factor.

There are many problems connected with wages that need a central oversight and direction. The right kind of employment bureau will become the repository of a great deal of information concerning the varied aspects of the wages problem, and especially its social implications.

j. Promotions

The educational and business value of promotions in any industry is great. A scientifically organized employment bureau should study carefully definite lines of promotion both within departments and between departments throughout the entire industry.

Some of our most progressive employers are now having careful analyses made of the occupational processes for the purpose of developing youth and men through these various processes. This is true of the Dennison Manufacturing Company, the National Cash Register Company, some of the automobile companies, of the Plimpton Press Company, the Fore River Shipbuilding Company and others that might be named. One of the gravest problems confronting industry is this matter of scientific, just promotion of men. If the values of the different work needs and occupations are once understood and scientifically tabulated, with trained, just leaders, promotion will automatically take care of itself.

Who shall finally decide on promotions is a grave matter and calls for the most careful consideration. One of the great advantages of a centralized employment and service bureau is, as just indicated, to keep careful records of employees, so that the foundation for intelligent promotion may be at hand.

k. Discharging employees

It is through the power of hiring and discharging that many of the most important and difficult labor problems arise in industry. Under the old methods, hiring and discharging have been regarded as necessary functions of department heads, foremen and leading assistants under foremen and superintendents. To-day, however, under the most scientifically organized industry, the whole methods of leaving complete power in hiring and discharging of men in the hands of department heads is being seriously modified. Hiring, as already pointed out, is composed of several stages—building up an available source of labor supply, that is, knowing the labor market; selecting from this available supply the desirable candidates; placing them in their various positions and trying them out, perhaps, through a period of probation and, if they do not fit, discharging them. Foremen and those directly

over workers should have the right, before a final hiring, to interview applicants and advise the employment bureau authorities, but they should not have the right to reject applicants, and in the case of men who are actually hired for a time, foremen should not have the power of final discharge. Final discharge should reside in the employment bureau. This gives the employment bureau the opportunity to place workmen who are not qualified for one department or position in another, where they may be of great service to the company.

Discharge is a grave matter. It is receiving more attention to-day than ever before. If people are scientifically selected and scientifically hired, discharge becomes increasingly a matter of grave responsibility. Causes for discharge, therefore, should be very carefully analyzed and understood. No one who has been carefully selected for a position should be discharged without a very clear case.

It many times happens that an employe not well qualified to work in one department, or under a particular foreman, subforeman, or leading man, will prove to be a valuable asset to the company in another department. The centralized employment bureau should be so organized and managed as always to have in mind the business as a *unit*, and this, experience clearly teaches, has not, up to the present time, been possible for the foreman always to do.

In the more scientific modern methods of handling labor problems what we want is not the old methods of control over men. Fear is the fundamental weapon in the old conception of the power of discharge. What we want is to release energy, develop a sense of genuine fitness, and have men control themselves. This new attitude toward placing and discharging, under adequate leadership in foremen and superintendents, will help remove many of the serious difficulties now in industry.

The recommendations suggested, therefore, with reference to the final hiring and discharging, all point in the direction of a genuine cooperation between the employment bureau and the different responsible heads of the various departments of a firm.

1. *Records and analysis*

It has been truly said, "This is the day of records." No one any longer questions the desirability of scientific record-making

in connection with production and sales. Similarly in the delicate field of human relations the experience of an establishment should be recorded in detail and future policies based on what a study of this experience yields. How valuable such a practice is has been discovered by some industrial path-finders. For instance, the Dennison Company through its Employment Department in most intelligent manner sets down facts concerning the employees who pass through this office and utilizes the story which these facts tell for constructive suggestions as to future policy. Likewise the Joseph & Feiss Company can prove the advantage of its service work through well-drawn charts, based upon careful analysis of its records. It has graphically shown the increase in productivity and wage and the reduction in manufacturing cost and daily working hours over a five year period under a service system a large part of which is concerned with enabling the worker physically to stay on the job day in and day out.

Other firms also are trying to reduce the number of accidents, sickness, absence, and numbers quitting from an analysis of their figures on these subjects. In each case can be traced the department where some undesirable condition obtains, or some executive who is responsible for it. In one instance, where the employment department is of comparatively recent origin and where the employment manager has to be more than tactful in dealing with foremen and higher officials, and the relation of his department to the management is largely advisory, accurately kept figures on the causes of the turnover are more eloquent in pointing out conditions that need improvement than anything which he might otherwise say; moreover, they are irrefutable as to fact.

3. PERSONNEL AND SUPERVISION OF EMPLOYMENT BUREAU

The prime essential in any scientifically constituted employment and service bureau is properly endowed, well trained and adequate, efficient leadership. We may have the most inspiring schemes on paper and an elaborate system with inventory and equipment representing much material and a large sum of money and still the system be unfinished and wasteful if we do not have the right kind of leadership. Desirable physical equipment in any industry and right processes are a great asset, but the right quality, training, experience, enthusiasm, in a word, the right *per-*

sonality of those in charge of an employment bureau, are absolutely essential.

The supervisor of an employment and service bureau should be immediately under the direction of the President. In position, power and responsibility he should be on a par with the vice-presidents, general managers, yard superintendents. He should be subordinate to no one but the president.

a. *Qualifications of those in charge*

The staff of a well constituted employment bureau calls for a well qualified director to have general oversight of the work. No such important office is scientifically equipped unless it has an *understudy* competent to carry on the work of the chief. The very nature of the superintendent's position will call for his frequent absence from the bureau. He will often render a greater service to the employes by being away from the bureau. Hence he should have an able assistant director, a man competent in case of need to take his place.

In addition to the chief officers there should be a sufficient number of interviewers, clerks, stenographers, and investigators when necessary, so as to keep the bureau at full efficiency all the time.

b. *Responsibilities*

In emphasizing the significance of the personnel of such a bureau as that in mind, it must be remembered that in this bureau should be deposited, or otherwise cared for

(1) A careful study of the labor market and an analysis of all applicants.

(2) Records of physical condition of all applicants.

(3) The records of all employes in the business. This centralized knowledge of all workers which should constitute a complete service record is, in itself, a large task. These records should be kept up-to-date, and call for constant oversight.

(4) An analysis of the qualifications for the different branches of the work through the industry, which should be carefully studied and standardized. The scientific knowledge of all jobs and their requirements is one of the most important needs of the Bureau and involves a great deal of labor. Such knowledge is an essential foundation for handling justly questions of wages

and promotions, and is a great help in the removal of friction and costly annoyance to those responsible for the work of others.

(5) A careful and accurate record of all employes entering and leaving the plant. An accurate knowledge of the turnover is vital.

(6) Cooperative, constructive work in matters of discharge.

(7) Close knowledge of the business. The employment chiefs should be in close touch with all work conditions, with the foremen, and every phase of the business.

(8) Close touch with all advance movements and helpful literature dealing with labor problems.

(9) Close relation with outside activities affecting duties of the employment manager, particularly such movements as the activities of the Employment Managers Association, The National Association of Corporation Schools, and the movements for Safety First and health.

These and other duties logically falling within this department give clear emphasis to the significance of the right kind of executive ability and personality needed for the direction of the Employment and Service Bureau.

c. *Joint advisory employment and service board*

The fundamental idea of a central employment scheme is efficiency through cooperation. After appreciating the possible gains from a well-equipped, centralized bureau and the selection of the staff, the next problem of chief practical importance is how to gain this cooperation which is essential to securing a comprehensive and effective system. This is one of the most important problems to be kept constantly in mind. The changes recommended will naturally cause doubts in the minds of a considerable number, although the report bears ample evidence of the advantages of centralized employment. That such a new centralized scheme, however, will come into conflict with departmental heads and foremen or assistants, not realizing that the suggested changes will be a benefit to the entire force, is certain. The creation of a *Joint Advisory Employment and Service Board* for the purpose of guidance and cooperation will be of great assistance. Such boards are now operating in many places.

Such an Advisory Committee or Board should be made up

after the most careful analysis of the most available men in the various departments where employment problems are most vital. Such a Committee wisely organized and efficiently directed, holding regular meetings at fixed periods, will greatly aid the Bureau through wise counsel, advice and suggestion. Having as its first interest *the welfare of the entire work force*, it would act as a plant clearing-house and would do much to train all those holding positions of responsibility along right lines with reference to the employment problem. It would be a bulwark against unjust attacks, its chief function being to secure efficient teamwork between all the departments regarding the most vital aspects of the labor problem.

II. JOB ANALYSIS

Thorough job analysis includes a careful study of every kind of occupation, both within the industry itself and in relation to the life of the employe outside of his occupation. In this way the total result of work analysis gives a complete view of the whole man. The significance and service of job analysis is being rapidly appreciated. Job analysis is carried on for varying reasons in different firms.* In some places it is carried on in order to arrive at satisfactory wage schedules, initial and progressive. In several companies many work positions have been carefully analyzed and classified. The job duties have been briefly but fully defined, and a range of wage or salary prescribed with reference to definite periods of time. In the case of the more important positions, only minimum and maximum rates are prescribed. From time to time those schedules are revised to meet changing conditions of the work and of the labor market. Such procedure aids in measuring productivity and gives a basis for rewarding workers. Outside experts are often employed to help in this work of job analysis.

1. SELECTION AND ADJUSTMENT OF MEN TO JOBS

Job analysis is also of great service in the problem of original selection. When the employment bureau, which is responsible

* Job analysis in connection with health problems is treated under *Health*, p. 320.

for selection, has complete data regarding requirements for the different jobs, these facts naturally direct those of the employment bureau responsible for selection to look for the required qualifications in the applicants. Job analysis is made under the direction of the employment department to enable the employment manager and educational directors to select employees more certainly, and to develop and protect them when placed.

In one firm where it took a workman from one to three years to become proficient in a certain job, it was found as a result of job analysis just why it took so long. It was pointed out by an educational expert how the period of preparation could be so guided that the operator could become proficient in a much shorter time than was then being required at the job. The job was one in which mechanical skill constituted about three-fourths, and non-technical skill about one-fourth. Such analyses are of very great value. They point out to the employer just what preliminary training is necessary for different kinds of work, and he is then in a position to cooperate with educational agencies to have the operator trained in the shortest time possible.

Job analysis helps to discover and determine lines of promotion. It enables a concern to know the possibilities of work alternation or transfer, and thus prepare the way for utilizing in one department laborers who may not fit well in another department. It is also of the greatest service in getting data and outlines for training courses; that is, it is of first importance in educational work.

In one large manufacturing establishment, where they had begun job analysis in the different departments, the following data were taken from the cards covering the analysis of the power-house work, so as to reveal the logical sequence of promotion therein:

- a. Coal handler
- b. Ash man
- c. Stoker.
- d. Boiler cleaner.
- e. Water tender.
- f. Wiper.
- g. Oiler.
- h. Water operator.

- i. Steam and air operator.
- j. Switchboard operator.
- k. Second engineer.
- l. First engineer.

2. RESULTS OF JOB ANALYSIS

The helpful, constructive results gained from job analysis may be summarized as follows:

- a. It is a great help in initially selecting employes.
- b. It gives necessary data for outlining to the beginners the possibilities of advancement and indicates when wage increases may be expected, and what the anticipated maximum salary may become.
- c. It is of great assistance in transferring those not adapted to one kind of work to work that they can do best.
- d. It forces business to open up channels for promotion. It almost always enables a firm to get help from within. Rarely is it necessary to go outside for skilled workmen. When requisitions come for better men, the positions are filled by moving others up. This means in each transfer really filling two positions; one, the higher vacancy, and the other, the position from which the promoted man is taken. By this process, the outside market is relied upon for filling only the low-grade positions in each case.
- e. It helps standardize wage and salary schedules and thus is a vital factor in regularizing work. It stabilizes the work force.
- f. It is the best method for discovering the educational values of the work contents of the different jobs.
- g. It aids in the discovery of occupational dangers. Such detailed attention to jobs cannot help but reveal occupational health hazards, accidents, diseases, and all conditions harmful to health.
- h. It is a great aid in the wise and just handling of grievances. Scientific job analysis is one of the best means for *preventing* grievances. Many of the disputes in industrial plants arise over injustice in wages, promotions, transfers, qualifications for particular jobs, etc. The only way to settle a dispute scientifically is to know the facts absolutely. Job analysis will fortify a company with more scientific data essential to the proper settlement of disputes than almost anything else. Job analysis, thus conceived, is a vital part of a scientifically constituted labor bureau, in that

it serves as a clearing-house of information useful to all. It furnishes the foundation for trustworthy advice and sound guidance.

III. HEALTH

1. NEED FOR HEALTH SUPERVISION

Within the last five years systems of health supervision have become general among progressive employers. It has been found to be better policy to select a worker physically fitted for the particular job he is to fill and to keep him well and free from accident than it is to have him quit because his health has become impaired in the course of his work, or because he has suffered an accident, or because he is not suited to the kind of labor he is doing.

Again, complete health supervision is merely an extension of the effort to reduce accidents, made necessary for the most part by Workmen's Compensation laws. Moreover, under the stimulus of growing public interest in matters of health, diseases arising out of and in the course of occupation (recently interpreted by the courts in rather liberal fashion) are gradually being charged against the industry just as accidents have been.

In instituting physical examinations and installing the medical machinery for accident reduction and treatment, it is being found advantageous also to utilize this machinery primarily for preventing health deterioration, particularly to the end that the worker be kept in as sound condition as possible, considering the fact that only a very small percentage of human beings are free from physical defects. This protection can best be assured by seeing to it that the worker is not assigned to any duty which will prove injurious to him, his physical condition and the requirements of the job having been ascertained in advance.

The advantages of a good system of medical supervision may be summarized as follows:

- a. It insures a better grade of workmen initially and raises the physical standard for the whole force.
- b. It keeps the plant clear of contagions and epidemics.
- c. It insures more continuous and intensive productivity, due to greater physical endurance and reduction of absence.

d. It reduces the turnover, men not quitting on account of physical misfit or illness.

e. It reduces the amount of accident and illness.

f. In cases of accident it prevents claims for injuries incurred previous to present employment.

g. It raises the intelligence of the worker in matters of personal and social hygiene * and teaches him to cooperate in safety and health matters.

One large corporation, although otherwise in the forefront of industrial practice, has been opposed to physical examinations and strict medical oversight. Its progressive employment manager has been studying the turnover carefully and has found that during the past year 13 per cent. of the men leaving (probably a larger percentage for women) went on account of ill health or because their health demanded outside work. His attention has naturally been turned to the necessity for selecting men and women more carefully for the work which they are to do; and as an aid thereto has found it necessary to ascertain just what qualities, physical and otherwise, each particular job requires. To meet this need a large number of the positions in the manufacturing division have been roughly analyzed. So, in spite of the firm's reluctance to adopt medical supervision, its own records of the turnover have demonstrated its advisability.

In a preliminary report just received from a large corporation which is only beginning to centralize its employment problems and which exercises no adequate medical oversight over the health of its employes, over 10 per cent. of the men leaving the company during March, 1916, went on account of sickness.

Moreover, in the case of accidents, it is largely the new man, not to mention the man who cannot speak English, the low-priced man, the casual and unskilled man, who ranks highest in frequency of mishaps; which fact at once suggests a causal relationship between this group of workers and the lack of proper selection, placing, and instruction of new men for safeguarding themselves at their work. Moreover, in the case of "repeaters," i.e., those who are injured more than once, it is necessary to know whether these men are put at work for which they are not

* For an illuminating discussion of the relation of home conditions to industrial efficiency, see article by Miss Gilson, of the Joseph & Feiss Company, Appendix IV, p. 390.

fitted, whether they are protected sufficiently against accident, or whether they are inherently unable to avail themselves of the safety aids at their disposal.

2. A HEALTH PROGRAM

Medical supervision may be accomplished largely by the following means:

- a. Physical examination.
 - (1) All new employees.
 - (2) All old employees.
 - (3) Periodical examination.
 - (a) Varying with different processes or different groups.
 - (a') Those in dangerous processes more often.
 - (b') Those under observation and treatment more often.
- b. Knowledge of the working conditions of the business.
 - (1) Medical knowledge of the physical requirements of the trade processes.
 - (2) Transfer of workers when misplaced.
- c. Preventive and prophylactic measures.
 - (1) Immediate attention to all physical defects found upon examination.
 - (2) Immediate attention to all employees incapacitated by illness or injury.
 - (3) Constructive advice and instruction in hygiene and safety.
- d. Perpetual inspection and oversight of men and plant conditions, including follow-up of all classes of workers.

3. PHYSICAL EXAMINATION OF EMPLOYEES

The medical examination is the basis for all accurate work along the line of health conservation, and its object is to discover any defect which may unfit the employe for his present occupation or render him liable to future disability, and to aid him either to correct such defect, if it is correctible, or else protect himself against intensifying it.

The numbers rejected or given employment conditional upon medical treatment vary with different companies, depending on their available source of labor supply, the seasonality of the business, its dangerousness, the compensation laws of the state, the health ideals of the firm or the doctor in charge, or other factors. The most prevalent practice among progressive establishments seems to be to give a thorough physical examination and to become accurately informed as to the condition of the applicant, but not to reject wholesale, especially those with non-prohibitory defects. The point emphasized by these firms is that, in the case of employes taken on while suffering from temporary defect or even from some chronic disability, strict and continual supervision must be exercised by the company to see that its correctional instructions are carried out. The Avery Company has made some interesting studies of workers with grave physical defects, who, with wise placement and careful watching, have increased the extra hazard in accidents only very slightly.

The physical survey of the entire working force is likely to be made when medical examinations are required for the first time, as in the case of the Avery Company and the Eastman Kodak Company, and periodically thereafter. By comparing the physical status of employes from time to time, a company can conscientiously work toward raising the health standard for the whole establishment, and consequently the output.

These examinations usually bring out the almost universal neglect of the teeth, which accounts for rheumatism, indigestion, and other disorders; also the prevalence of defects of vision and hearing. In one plant over 19 per cent. of the employes examined during the year were found to be suffering from defective eyesight and deafness. Also, in rejecting applicants for work over a period of five months in 1915-16, one establishment turned away 112 men (over one-third of all rejected) on account of missing phalanges—a sad commentary on the wasteful maiming occurring in industry.

4. JOB ANALYSIS AS AN AID TO MEDICAL SUPERVISION

An analysis of the various processes and positions is necessary before any complete medical supervision is possible. It is impossible to make a judicious selection for the filling of a position without having a clear idea of what the operation or operations

consist of, and what qualities it requires, physical as well as mental and manual. There ought to be some reasonable assurance in advance that the applicant can stand the speed, exertion, nervous wear and tear, hours, temperature, and other conditions of employment. Of course, employment officers have always approximated this in a rough way, but they sometimes wait until their records show a break-down of health on certain jobs before acquainting themselves with their work requirements. This should be anticipated. In talking with even enlightened employment managers it is evident that they do not always grasp the importance of careful selection, especially for those jobs that are in any way dangerous to health, until this is reflected in the turnover. In the lead industries, where the occupational danger is great, it has been found that the men come and go with great frequency. In the case of a large rubber company which hired 12,000 men last year, it was found by the management, through an analysis of the turnover, that the high percentage of employes leaving was due in a large measure to the monotony of the work, the men tiring of repeating the same operation over and over again, and going in spite of the high wages earned.

The Dennison Company has worked out specifications for each job not within the so-called "skilled" trades, which includes the schooling or the sort of experience desirable for the position in question; the posture required of the employe, that is, whether the employe will be sitting or standing, stooping or walking; the preferable age, weight, and height of an employe; whether the employe should be right-handed or left-handed; the starting wage; the time taken by an average employe to earn an advance in wages; the probable maximum earnings of the position, and whether the job is steady or seasonal. The Dodge Brothers Motor Company, it is said, has compiled a complete classification of factory labor, including the physical requirements of the trade.

In order to get at just the requirements necessary for each job, a progressive establishment near Boston is working at the present time on a careful analysis of each particular job in its relation to each particular worker. This includes a careful study of home conditions, temperament and age of the worker, methods of payment, all physical surroundings of the work place, such as ventilation and light, accessibility to toilets, rest periods, possibilities

of sitting, noise, any nervous strain resulting from the nature of the work, and any other features which may make that job different from any other job. It is intended that this analysis show just the proper requirements for the best kind of worker on that particular job, and enable the employment department to choose that individual who will suffer least from working in that particular position, as well as to bring the best results in point of production.

Throughout the country great interest is manifested in the possibilities of job analysis, from every point of view, although the physician has not been called upon as frequently as he might be in analyzing particular processes from the standpoint of safeguarding health and of forearming the employment department against unwise selection. Moreover, just as wide-awake companies conduct laboratory tests of their supplies to ascertain quality, or make chemical analyses of factory water and air supply, so adequate medical research of conditions in the plant should be conducted, as for instance, has been done in the case of the Portland Cement Company of Riverside, California, which has experimented on men and guinea pigs to find out what effect cement dust has on the lungs.

5. TRANSFER TO OTHER WORK

A number of firms transfer to other positions employees who are unsuited to the work they are doing, some of these occurring in cases where conditions of health are involved. One company found among its employees, truckmen and telephone operators with defective hearing, some with marked visual defects doing close work, and laborers doing heavy lifting who were ruptured or who had serious heart disease. These are just a few typical instances; to what degree such misplacements may contribute to accidents can be easily imagined.

6. COOPERATION WITH EMPLOYEES IN HEALTH MATTERS

Although the unstinted cooperation of the person whose health is involved is absolutely necessary, the degree of cooperation met with by the company and its ultimate value will depend upon the following factors:

- a. The spirit in which medical supervision is undertaken by the management.

b. The character of the staff, and especially of the examining physician.

c. The composition, intelligence, and loyalty of the workers.

d. The ability really to maintain a high standard of health and attendance.

It is a difficult matter, no doubt, for a company to launch upon a plan of strict medical supervision without incurring the suspicion of some employes, although membership in mutual benefit societies has accustomed employes to undergo physical examination. It is "up" to the management to pave the way by conferences, talks, and tangible guaranties of good faith, especially in promising not to discharge those found with defects and to aid them in obtaining the remedial care necessary for their improvement or recovery. A number of firms report that the men have come to recognize the value of the physical inspection service in keeping them informed as to their physical condition and in safeguarding their health.

Above all, it is necessary to get employes accustomed to come to the medical department freely. In every establishment, in addition to accidents of importance, there occurs a large group of minor injuries, involving no loss of time, but which, if left untreated or improperly handled, might become serious. Especially is this true in the case of small cuts, abrasions, punctured wounds, and foreign bodies in the eye, which for the most part lead to infection. Since the establishment of the medical department at the Eastman Kodak Company, in 1914, there has been but one case of infection in the many thousands of cases treated. The Joseph & Feiss Company goes further and prohibits any one from working with the slightest scratch, ache, or pain, or any indication of illness without first consulting the nurse.

At the Cleveland Foundry Company the doctor is at present on half time, due to the efficiency of the safety work. In 1915, the company reduced accidents to joints to zero from 70 in 1913, and consequently reduced the cost of insurance.

The necessity of getting the confidence and cooperation of workers in health supervision has been emphasized; but first of all, in order to guarantee that this supervision be effective, the intelligent cooperation and approval of sub-foremen, foremen, inspectors, superintendents, and other officials is necessary. Just as the most effective safety work has been accomplished by the

getting together and working together of those higher up and those lower down, so the best results in the supervision of health will be attained cooperatively. It is gratifying to note that in the case of the National Cash Register Company there is a large, newly appointed Committee on Health and Safety, consisting of over one hundred members.*

Moreover, the best results will come when the men begin to work out their own health problems, after the manner of workmen's safety committees. *Safety First* must be converted into a *Health First* slogan, and it is becoming so under the spur of systems of social insurance which individual firms are, through their own initiative, either inaugurating or extending.

Only within the last few months confidential information has come from a large company of the Middle West which manufactures rubber products, to the effect that it has recently established a system of social insurance (consisting of service annuity, disability compensation, and life insurance) and in connection therewith a Department of Health. "In providing these benefits," the Company announces to its workers, "the corporation is expanding its plan of developing the mental and physical efficiency and well-being of its employes, so successfully begun in the physical examinations undertaken in 1914."

Surgeon (resident and on call) and nurse, expert in occupational disease and hygiene, sanitary engineer, safety inspector, first-aid men, foremen and workmen's committees are all needed to educate, to safeguard, and to prevent the break-down of health; and above everything, there is need to instill among those concerned an interest in this movement. In this endeavor it will be well to co-operate with any public or private agency on the outside which is working toward the same end, especially in the locality where the workers live.

* Photograph in *N. C. R. News*, November, 1915, p. 33:

IV. EDUCATION: TRAINING IN THE ORGANIC UNITY OF BUSINESS

I. INTRODUCTORY

a. *Education of employes, good business*

Education in industrial plants takes on many forms, and is carried on under a wide variety of methods. It is one of the most significant movements in the world of industry, and gives promise of rapid extensive and intensive development. The training of employes is "good business." This conviction is turning our large corporate industries into veritable schools, colleges, and universities. It is already having a wholesome retroactive influence on our formal educational procedure in schools and colleges, giving it a more concrete content and shaping up educational methods more in terms of vocational, business, and social values.

b. *Education for all employes*

This education and training of employes *within* industry takes on a wide variety of forms according to the local needs, ideals, equipment, etc. It includes training courses for executives, salesmen, office and clerical help; it extends to the rank and file of workers—skilled, semi-skilled, and unskilled; it is rapidly spreading to include the training of illiterate foreigners in English and the elements of citizenship, and it includes many well regulated apprentice courses.

This educational work is sometimes extensive, covering a wide variety of subjects and lasting over a long period of time. It is more often intensive, confined to a homogeneous group, exhibiting a common need, and is based upon definite, well-formulated data gathered by teachers familiar with the details of the industry and trained in pedagogical method and procedure, as in the case of the American Steel and Wire Company, the American Telephone and Telegraph Company, and some other training classes.

c. *Some prerequisites of corporation education*

Education is a costly procedure. It means valuable space and often calls for costly equipment, as in the case of well designed

and properly equipped apprenticeship shops. The expense laid out on a proper teaching force mounts up rapidly. Well-trained employes are valuable assets. Hence the growing care in selecting those who are to undertake the educational work. This process of careful selection is becoming more and more well defined. It includes physical and medical tests to see that the man is in good bodily health. As in the case of selecting salesmen for training courses, it more and more resorts to tests of a psychological and vocational nature. All this physical, mental, and vocational testing, preparatory to the training work, is for the one specific purpose of getting *the right man on the right job*.

There is a wide interest in tests in many places. The Presidents of some large concerns in Ohio and Illinois are profitably using various types of formal testing as part of the educational work. Experiments of this nature have been carried on among employes in various establishments—electrical apparatus, clothing manufacture, button manufacture, telephone operating, type-writing, inspection of balls for ball bearings, and salesmanship in various lines of industry.

2. INSTRUCTION AND TRAINING OF EXECUTIVES

Every line of business is seeking more able leadership. In our modern industrial organizations the commanding officers are as important to the success of their enterprises as the officers of our army and navy are to war and defense. Our industrial leaders need training as much as our army officers. The realization of the organic idea of industry, the development of cooperative policies, the increase of human efficiency and the conservation of talent depend largely upon the attitude and ability of the leaders. Gantt has said that "to train and select leaders is *the* industrial problem of the day." As never before in industry, the discovery and training of executive ability within the business, and the appropriation of young talent from the schools are being emphasized.

For the purposes of this section of this report, the term executive is made applicable to any person in authority over another or responsible for his work or conduct, anyone, in short, whose duties include the discovery, selection, instruction, training, advancement (protection), or discipline of any other person.

a. *Qualities of executives and conditions of their training*

Qualities of executives

In selecting and developing leaders an appreciation of the factors or characteristics essential to efficient, successful leadership should be clearly formulated and carefully borne in mind. The essential characteristics of the successful executive may be said to fall under the following headings:

(1) *Character*, integrity, resourcefulness, initiative, responsibility.

(2) *Imagination*. No man is a true leader who cannot project himself into the future. He must have ideas and ideals in order to lead.

(3) *Judgment*. A man must have perspective to see how many of his ideals are workable. He must have a scientific attitude,—sound common sense.

(4) *Courage*. Many men with good imagination and lofty ideals fail because they lack true courage. They are timid, or they try to please everybody. Hence they do not go forward as leaders.

(5) *Efficiency*. This comprehends the habits of hard work, thoroughness, and constant accuracy. True efficiency comes from native talents for a particular line of work, plus special training, plus experience, plus devotion to the task, plus generosity in the work, plus conscience.

(6) *Understanding of Men*. This is more than mere *knowledge* of men. This is the most crucial test of genuine executive ability. Executives must not only know human nature, have a *knowledge* of men, but literally *understand* them, be able to sympathize with them, put themselves in the place of those under them, and exercise a "*pull*" from the bottom upward, and not a "*drive*" or "*push*" from the top downward. This understanding of men and the wise leadership of subordinates are the real tests of *organization* fitness.

(7) *Sound knowledge* of the fundamentals of the industry and organization of which the executive is a part, and a knowledge of business or trade in their largest aspects. Many executives are inefficient and get into all sorts of trouble because they are not properly trained in the business in which they are to issue and execute orders.

(8) *Skill*, which comes from the technique of practice and of business experience generally.

(9) *Courtesy*. Men and women are more and more grasping the business value of fair, courteous treatment. The response to the appeal to high ideals is definite, but discourteous treatment reaps unsatisfactory results. "Industry awaits the administrator who shall be all that a gentleman should be: efficient but humane, adroit but honorable, a lover of his fellow-men as well as a leader of them; and who shall use his power with gentleness, and his wealth with imagination, and shall illuminate the world of private property with light from the far-away interests of the heart." *

If this be a correct conception of the essential factors of a successful executive, it should furnish a standard in discovering, selecting, and developing executive organization, and point out methods of instruction and educational procedure.

The head of a large industrial concern must first define in his own mind the product he desires from the various duties to be performed. In sizing up men, especially young men, for training and promotion to executive positions, he is exercising his most fundamental and vital function. *The selection, training, and functioning of executives determine the entire organization.*

Conditions essential for training executives

In the training for leadership, certain fundamentals are essential. They may be briefly stated as follows:

(1) Educational work requires time. It costs in *real effort*; hence men must not be expected to do effective educational work when practically exhausted as a result of the normal day's duties.

(2) Equal, fair opportunities are fundamental conditions for the selection and development of leaders. Any favoritism, from whatever source, is fatal in educational procedure.

(3) The *hope of advancement* is the greatest stimulus in educational work. If the management will clearly chart the way, and supply the hope of a fairly definite reward, the men in positions of responsibility will, as a rule, assume the greater share of the burden of their own development.

* Jones, *The Business Administrator*, p. 208.

b. *Sources of supply*

Every industrial organization is itself the best source of supply of executives. Importing talent, "stealing trained ability" from other plants, is no longer regarded as "good business." Every industry is, or should be, a school for the discovery and training of varied human talents, including managerial ability. It is worthy of note that under the German system of training in industry 65 per cent. of the men in technical and managerial positions in the foremost industries come up from the ranks.

Up to the present time in the United States, however, there have not been enough men of managerial ability discovered and developed in industry itself to supply the demand, and schools and colleges have furnished many executives to industry either with or without an apprenticeship in the business. In general, it may be said that the higher executive positions are being to greater and greater extent filled by men from technical schools after a brief course of training in particular industries, while the so-called non-commissioned officers of industry (foremen, assistants, inspectors, and the like) are largely recruited from the ranks. This group of subordinate executives is the chief concern of training. What the schools and colleges are doing to prepare men for leadership in industry is discussed later in this section.

c. *Methods of training executives*

Having in mind, then, the characteristics of a good executive, and remembering that the chief motive in training executives is efficiency through the hope of advancement, and that the logical source of supply is within the industry itself, the methods of training are next in importance.

Training for executive responsibility is peculiarly twofold: (1) training for *job* fitness; (b) training for *organisation* fitness. The latter is more difficult and important than the former. Many foremen are good machine shop heads, good blacksmith shop heads, good foundry foremen, etc., but are woefully weak when it comes to a knowledge of the value of the right relation of their departments to the entire business. They are not trained in *organic* unity; they do not fit into the organization.

The Joseph & Feiss Company especially emphasize training for organization fitness and other companies, such as the Plimp-

ton Press and the Dennison Manufacturing Company, recognize the need of foremen who will fit "into the spirit of the place."

In a number of progressive firms men are being trained in this twofold sense. The method used is the practical-theoretical method; that is, theory deduced from first-hand knowledge of the industry. One of the best illustrations of this method is the successful training course given to those in responsible positions by the American Steel and Wire Company.*

Several other companies are carrying on similar work for the men at the top, and all declare this to be essential under modern conditions if the best results are to be secured. The regular wage and the actual traveling and living expenses incident to these training courses are cared for by the companies.

d. *What schools and colleges are doing to train executives for industry*

For managerial positions, especially the higher positions, men are often chosen rather for their general intelligence than for technical skill. College men are said to excel in the ability to meet and handle men, qualities invaluable in executives.

Bright young men chosen by educational and employment managers from among the graduates of technical schools and colleges after a short course of instruction in a particular business and a try-out in the departments for which they appear to be particularly adapted, rise rapidly to positions of responsibility. The student training classes of the Westinghouse Electric and Manufacturing Company and of the Western Electric Company are good examples of this kind of training. While not intended exclusively for the development of executives, these courses furnish many trained men for managerial positions.

The Westinghouse student training classes receive annually about one hundred graduates of technical schools, chosen after personal interview and with the approval of the education committee, together with a few special students of approved qualifications and a few foreign students selected on the recommendation of the export department with the approval of the Vice-President. These students receive a year's general class instruction,

* For a detailed account of this course, see Appendix V, p. 403.

factory and shop experience, and special training in chosen departments. At the conclusion of the course they are given positions in the line of work for which they seem best adapted.*

The Western Electric Courses for graduate students and selected employes of the Company follow much the same plan. The course is definitely understood to prepare for advancement and not to train hand workers. Students are rated on interest, application, aptitude, confidence, aggressiveness, tact, accuracy, speed, and personality, and the instructors are requested to pass upon the students' ability to direct or supervise the work of others.

Colleges and technical schools are making some beginnings in the definite instruction and training of students for managerial positions. For instance, Dartmouth College in the current year has offered a course in the Amos Tuck School of Business for employment managers, in cooperation with some of the big stores of Boston and the Boston Vocation Bureau, including several months of actual practice in the cooperating concerns.†

During the academic year 1915-16, there has been given in Boston, in the University Extension Commission courses, a series of lectures on "The Human Interpretation of Industry," by Professor H. C. Metcalf,‡ of Tufts College, supplemented by conferences throughout the course.§ Among those attending was a number of men and women who hold supervisory positions in the business world, among them employers and their immediate assistants, employment managers, foremen, industrial nurses, investigators, and others who come in first-hand contact with industrial problems.

The Buffalo Chamber of Commerce, recognizing the need of training industrial managers in the art of handling men just as teachers are trained in the art of handling children, has proposed a plan for establishing a College of Industrial Engineering. Under this plan the University of Buffalo would furnish equipment for instruction, and the business houses, factories, and shops would give opportunity for clinical practice, so to

* For an additional statement regarding this training, see Appendix VI, p. 405.

† For a revised outline of this course, see Appendix VII, p. 407.

‡ Chairman of the Committee on Vocational Guidance of the National Association of Corporation Schools.

§ A synopsis of the main subjects covered in this course is to be found in Appendix VIII, p. 409.

speak. The courses would be open to students of the University and to foremen from the factories, and the suggestion is made that business firms might profitably furnish scholarships to promising students. Instruction would be given by the university faculty and special lectures by experts from the business world.

The proposed course includes the following topics:

- Experimental and applied psychology.
- Industrial hygiene.
- History of apprenticeship.
- Sociology.
- Industrial relations.
- Industrial law.
- Factory organization.
- Business administration.
- Shop management.
- Distribution and traffic.

Courses somewhat similar to this proposed course are given by the School of Business Administration of Harvard University, the Wharton School of Finance of the University of Pennsylvania, and the College of Engineering of Cornell University.

The alternating cooperative plan of the University of Cincinnati, training men for rapid advance to positions of responsibility, is too well known to need more than mention. The National Cash Register Company has a similar arrangement with the Cincinnati High Schools. The same plan has for some years been successfully carried out in Fitchburg, Massachusetts, the high school cooperating with the Simonds Manufacturing Company and other firms. From the students who have had this training, the cooperating industries are said to select foremen in many instances.

Other cities practicing the high school cooperative plan are Providence, R. I., Chicago, Ill., Springfield, Vt., York, Pa., Lansing, Mich., and Solvay, N. Y.

The Minneapolis Survey recently made by the Society for the Promotion of Industrial Education recommends technical courses in the regular high schools and college courses so planned as to prepare students for rapid advancement in industry.

e. *Training of employes for promotion to executive positions*

Since the chief source of supply of executives especially of the so-called non-commissioned officers of industry, must probably always be in the ranks of industry itself, the training of employes for promotion to these positions is of paramount importance. Dockrell says, "There is only one way to handle men and that is to help them. And you cannot help them if you do not know more than they do. . . . There is no royal road to power except plugging"; and it is the man who takes the trouble to know more than his fellows who rises to positions above them. Many plans are being tried for offering to the ambitious "pluggers" the chance to advance. In Minneapolis, by means of agreements with various industries, the Dunwoody Institute is offering evening *industrial promotion courses* to employes of the cooperating companies. The courses will include plan reading, estimating, and interpretation of specifications for building trades, machine and architectural drawing, and applied design. The college of engineering of the University of Minnesota is offering two and three year evening courses, also for men in industry.

In many places employes are availing themselves of continuation schools, Y. M. C. A. courses, University Extension courses, and promotion classes within the works.

The "Flying Squadron" plan of the Goodyear Tire and Rubber Company, while designed primarily for the training of men to fill any vacancies that may occur, has for its secondary object the supplying of foremen and other executives as the need arises. The men chosen for the Flying Squadron are given courses in English, mechanical drawing, economics, management and rubber manufacture. The object is to provide a good technical and general background.

The understudy system in vogue among railroad companies is one of the best means of supplying executives through promotion. Delano says, "Once the manager feared to lose his position if he familiarized another with his duties—today leaders recognize the need of training understudies." Railroads have taken the lead in training their own men for positions of leadership. They have "available more human material, trained as

understudies to numerous executive offices, than the average merchant or manufacturer." "Young men are taken into the organization of the railroad and trained gradually to assume the duties and responsibilities of higher positions."

The Fore River Shipbuilding Corporation has recently inaugurated the understudy plan in all its departments, each of the chief executives of the firm selecting a man to be trained in his work.

The United Cigar Stores Company trains its employees in the handling of men and places great value upon ability of executives to build up the men below to be ready for responsible positions.

The "three position plan" of promotion as outlined by F. B. & L. M. Gilbreth, makes each employe in any plant a member of three groups. He belongs to the group next higher up as a learner, and part of his time is spent in preparing for promotion to that group. He belongs to the group lower down as a teacher, and part of his time is devoted to instructing someone in this lower group to take his place. How long a man stays in this working group depends largely upon how soon he can train a man below him for his position and receive training himself for a position in the next higher group.

f. Training of employes already occupying executive positions for greater efficiency

As Mr. Dietz of the Western Electric Company says, it is as important and difficult to keep educated as to get educated. Under our rapidly changing industrial conditions it is increasingly necessary for men in executive positions to keep up with the industrial procession. They must therefore be constantly in training, not only for promotion, but for greater efficiency in the positions they occupy.

In a campaign of education the greatest benefit to a firm will come in the least time and with the least effort through the training of those who supervise and plan the work of others. "Their rulings, constructive or destructive, may be multiplied as many times as there are employes in their charge" and "the success of a business enterprise may be to a large extent in their control."

If the executives of an organization were carefully trained for their positions and kept in training, there would be less need

of the efficiency expert from outside to diagnose and treat the ills of industry.

The bewildering variety of plans and of courses for the training of men already holding executive positions is only suggested by the following illustrations:

(1) Courses for foremen, such as the course given by the Goodyear Tire and Rubber Company, two hours per week, and including business and shop arithmetic, mechanical drawing, economics, methods of management, and rubber manufacturing practice.

(2) Courses for buyers and department managers, such as the course given by the J. L. Hudson Department Store.

(3) The Lowell Institute School for industrial foremen.

(4) Y. M. C. A. classes and clubs for foremen, such as those provided in Cambridge, Massachusetts.

(5) Evening classes for foremen in colleges and universities, such as those offered in the University of Minnesota.

(6) The Young Men's Christian Association has just announced a new course on the "*Human Side of Engineering*." The course has been approved by a large number of engineers and is to be incorporated with the curriculum of several engineering schools. It has been formulated on the basis of the growing demand on the part of business men for such opportunities for training their leading men along the lines indicated.

(7) A course of training has been suggested for foremen, leading men, and others responsible for the protection of subordinates in the shipbuilding industry with a view to creating a new spirit of cooperation, fellowship and loyalty.*

(8) Classes for instructors. The American Telephone and Telegraph Company maintains normal schools for the instruction of instructors and the standardization of the work of the instruction staff.

(9) Such auxiliary and supplementary means of instruction for executives may be mentioned as group meetings within the plant; trips to other plants; conventions; membership in societies for promoting industrial relations; works libraries and branch sections of public libraries in the plant; representative house organs; instructive films shown at the lunch hour and in

* For a detailed outline of this suggested course, see Appendix IX, p. 410.

be assembled for lectures, demonstrations, instruction, and discussion.

The Wanamaker Store employes, of Philadelphia, through their organization known as the American University of Trade and Applied Commerce, may receive instruction in merchandising, advertising, salesmanship, business administration, many and varied technical trades, engineering, electrical and mechanical trades, domestic science, literature, music, economics, civics, ethics, and physical and military training. For the younger workers in the Wanamaker stores of New York and Philadelphia, the John Wanamaker Commercial Institute provides grammar school instruction, physical and military training, and instruction in morals and music.

The American Telephone and Telegraph Company maintains class instruction for Operators, Supervisors, Instructors, Chief Operators, also organized training for young men to fit them for executive positions.

The Simonds Manufacturing Company, of Fitchburg, offers office, shop and English courses. The Packard Motor Company employs many instructors for training skilled machinists, and the Ford Motor Company, the Western Electric Company, and the Westinghouse Electric and Manufacturing Company employ teachers on full time to give instruction on specific machine jobs.

Short intensive unit courses are given by trained teachers or by correspondence, or both, by the American Telephone and Telegraph Company, the National Commercial Gas Association, the National Electric Light Association, the American Steel and Wire Company, and the Western Electric Company.

The Dennison Manufacturing Company has inaugurated a system of training for all new employes to equip them for their special work, to instruct them in general knowledge of related work, and to teach them the use and care of materials and tools. Not until they are able to earn a specified wage are new employes placed in the actual manufacturing department. This method of instruction relieves the foreman, prevents misfits, and reduces the turnover.*

Inasmuch as the instruction and training of salesmen, office

* For an account of the educational work of the Dennison Manufacturing Company, see Appendix III, p. 382.

workers and apprentices will be taken up in detail in the reports of special committees they are omitted from this discussion.

c. *Education of non-English-speaking employes*

(1) *Need of knowledge of English*

Grave barriers confront the foreign workmen who cannot speak and understand English. A knowledge of English is so essential to efficiency that employers cannot afford to allow foreigners to enter and continue in their employ uninstructed in English. It is essential to the foreigner because, without it, he cannot hope for promotion. Such ignorance spell inefficiency at every turn.

It means the inability of the foreign-speaking employe to understand company policy, to read and understand notices, signs, and safety instructions.* Many cases of accidents and occupational diseases result from such ignorance. These employes are often a positive menace in a plant because they do not understand rules and orders; do not get the point of view of the management; quickly take up discontent movements; many times imagine grievances, or get false notions; are often the first to strike and are brutal in strikes, and carry false reports and create misunderstandings of the company.

Many non-English-speaking foreigners remain in low-waged, unskilled work where they are misfits because they cannot make their employers understand that they are capable of better things. They are exploited outside and inside the works and become easy tools of padrone, priest, labor agitator, or strike breaker. When they are taught English, they emerge from this condition of dependence, advance in wages, thrift, loyalty to their employers, and manner of living.

(2) *Responsibility for teaching English*

Opinion is divided as to the responsibility for teaching adult foreigners the English language. Some business men regard it as a duty of society and the school system and decline to hire

* Since starting the school of English for foreigners (May, 1914), the accidents in the production departments have decreased 54 per cent. A large force of interpreters was used before the school was started; now none is necessary.—Circular of the Educational Department of the Ford Motor Company, April 1, 1916.

workmen who do not speak or understand English. Other employers look upon training as one of the social responsibilities of industry and regard it as good business. Many of these foreigners have been induced to come here for particular lines of business, and it is only just, since they are not "school material," that the business in which they work should give them a working knowledge of English. Doubtless many good men are lost to their employers because of their inability to explain their needs, grievances, and abilities to their bosses and foremen.

The magnitude of this problem is shown by recent statistics of the United States Bureau of Education. About 87 per cent. of the nearly three million foreign-born persons over ten years of age who cannot speak English are over twenty-one years old, and only a little over 1 per cent. of this large, non-English-speaking number of adults is attending school. The remaining two and a half million are left to the mercy of industry. Many companies are now meeting this situation in a variety of ways—some affiliate with night schools; some conduct schools on company time within the works, called factory schools; and some make the school work compulsory, while others offer voluntary opportunities; and some hire men on condition that they will learn English.

(3) *Various policies in regard to non-English-speaking employees*

"In the United States a movement is on foot to secure this object [the Americanization of the foreigner] and the following are the methods employed by firms in Detroit with this in view:

"(a) A Preferential Policy.—Men were assembled and told that from this time on, men that were going to night school and trying to learn English would be preferred—the first to be promoted, the last to be laid off, and the first to be taken back.

"(b) Compulsion.—Several companies made night school attendances for the non-English-speaking a condition of employment. The Northway Company established a factory school also, and then put up to its men a threefold proposition: (1) To attend night school; (2) to attend the factory school; (3) to be laid off.

"(c) Popularizing the Idea.—The Cadillac Company, for instance, worked out a definite program, to interest the leaders of the men, and let them do the rest.

"(d) A Bonus System.—The Solvay Company, for instance, proposed a two-cent-an-hour increase for all non-English-speaking men that would attend night school." *

(e) Naturalization of Employes.

One of the chief incentives to the learning of English is naturalization. The Chalmers Motor Company strongly urges foreigners (practically forces them) to take out naturalization papers. The Dodge Brothers Motor Company encourages naturalization and cooperates with the city in establishing English classes for foreigners.

(f) Instruction of Foreigners in Their Mother Tongue.

It takes time to give an alien such proficiency in the use of English that he can understand orders, read rules, and profit by safety and health bulletins. In the meanwhile it is important to give instruction in the most essential matters in the foreigners' native tongue. Recognizing this need, Crane & Company prints a rule book in the employes' native language; the Illinois Steel Company prints employment blanks and safety and company rules in foreign languages; and the International Harvester Company furnishes safety rules and instructions for workers and foremen in fifteen different languages. W. C. Roberts, of the Y. M. C. A., has worked out a book, chiefly of safety rules, in different foreign languages, for the use of factories and shops.

(4) *Methods of teaching English to foreigners*

The Ford method is as well known as any company method of instructing foreigners in English. Employes attend the Ford English School on their own time. There are some 1,600 pupils under thirty-six instructors, meeting one and one-half hours daily, three hours a week for each student, in classes so arranged as not to interfere with working hours, the class for night workers meeting at 8.30 A.M., for instance. The Peter Roberts dramatic system is used for the lessons. When the course is completed, the class is graduated with appropriate exercises.

Other firms using the Ford method are the Packard Motor Company, the W. M. Finck Company, and the Ford Motor Company, of Canada.

* Quoted from the Supplement of the *New York Times*, October 24, 1915, in the *Report of the Ontario Commission on Unemployment*, 1916, p. 55.

Boards of Education in various large cities have also adopted this plan. Some firms cooperate with the public schools in giving courses in English. Thus the D. E. Sicher Company, of New York, allows its employes one hour each morning for English classes in the factory. The public school system supplies the texts and the instructors.

Classes are often conducted in factories and stores by local Y. M. C. A.'s.

(5) *Teaching civics and citizenship to foreigners*

Next in importance to a knowledge of English for the foreigner is a knowledge of our political institutions and an initiation into the spirit and ideals of our democracy.

Many companies recognize this need and add courses in citizenship to their English courses, or cooperate with schools or outside organizations in giving such courses.*

The Committee for Immigrants in America has prepared "for the use of Colleges and Universities, Schools of Civics and Philanthropy, to fit men and women for service among immigrants," a "professional course for Service among Immigrants." This course was given at Yale during the current school year. From among college men and women taking such courses may be recruited instructors, investigators, interpreters, visiting nurses, and inspectors for work among foreign-born employes.

V. PROMOTIONS AND TRANSFERS

1. PROMOTIONS

It is significant that while nearly all employers complain that employes are constantly shifting and that many do not remain long enough to become familiar with the requirements of their jobs, very few employers have worked out any definite plans

* See especially the *Citizenship Syllabus* prepared by the Committee for Immigrants in America and published by the New York State Board of Education (1916); also *An Outline Course in Citizenship*, issued by the United States Bureau of Naturalization (1916). There is at present being issued by various interested agencies a number of pamphlets pertaining to the education and Americanization of the immigrant. Cf. especially the literature issued by the *National Americanization Committee* and by the *Committee for Immigrants in America*.

for the systematic advancement of their employes. About the only group of employes systematically promoted is the sales force, who are usually promoted on the basis of average sales. Promotions are of three kinds:

- a. Departmental.
- b. Interdepartmental.
- c. Out into other fields and businesses.

Every organization, in order to care properly for promotions, should have a carefully developed organization chart. This chart should classify positions, in so far as possible grade them, and indicate lines of promotion. The management should let it be known that careful service records are to be part of the promotional plans. It is also very important that the right individual should make out these records and supervise them. Those who decide promotions within departments, between departments, and out into other fields, have a great opportunity and a far-reaching responsibility. Such authority is now looked upon as a vital part of the machinery of satisfaction and contentment in the places where careful study of promotion has been made.

In some places systematic instruction and other aids to assist workers in promotion are given, and men are obliged to move after a time from one position to another. If in the stipulated time men do not move, they are changed to other departments or dismissed. The employment bureau should keep very careful records of the number of employes promoted or transferred as a result of instruction or other aids.

Careful studies of promotions lead more and more to the system of filling vacancies by promotion. This means that applicants, upon entering the service, usually are obliged to start at the end of the line. Department heads naturally have a large voice in the determining of efficiency records, in the increases of wages and salaries, and in transfers and promotions, but more and more they are deprived of final authority. The authority to make a final decision in these matters is a function of the employment department, or is a part of the work of the joint committees constituted for such purpose. In the final decision, department heads may have a voice.

Always in filling a position the first consideration should be given to the man in the company's employ who desires a change

of work; second consideration to the man laid off, and third consideration to outsiders. Applications for promotions of the more important assistants who are eligible for advancement to higher positions as foremen, managers and superintendents are made out by the department heads annually. Attention should be given to the individual's previous record before promotions can be made intelligently and satisfactorily to the higher positions. Systematic promotion, in a word, is a great asset. It is vital, as pointed out later in the handling of grievances.

Efficiency records in promotion problems are receiving much attention. They usually embody ratings on:

- a. Productivity.
- b. Evidence of initiative and originality as shown forth in suggestions and in other ways.
- c. Mistakes or errors.
- d. Attendance.
- e. Punctuality.

The two latter have been recently adopted by some firms in addition to the three former commonly accepted efficiency items.

2. TRANSFERS

In the study of transfers careful records are now being kept of reasons for such changes. Among the more important causes are the following:

- a. Natural fitness for one position as opposed to unfitness for the work of another.
- b. The irksomeness of tasks, due to repetition of operations.
- c. Physical unfitness.
- d. Inability to get along with foremen.
- e. Recommendation of foreman for transfer, and recommendation of foreman for discharge.

In the case of a large automobile company, 2,847 men who had given notice of quitting during the past year were persuaded to stay on and be transferred to more suitable work, which was successfully effected. It was found that the principal reasons for wanting to quit were that the men were unfitted for the

class of work they were doing, and that they were dissatisfied with conditions.

There are other reasons besides that of physical maladjustment for transferring men from one job to another, particularly the desire to advance employees or the lack of work in the original department; but the records of one well-known firm show that 18 per cent. of the transfers made in 1915 were due to not being adapted to the first job, and that after transfer, most of the workers made good on the second job.

A significant instance of the possibilities in transfer has recently come to the writer's notice. The employment agent of a company which has a force of 2,500 was considered a failure in the shipping department, from which he was transferred. But upon his being tried out in the employment department, in a capacity which gives play for qualities of leadership, he has more than made good, and is rated as a valuable man.

Some concerns are keeping promotion and transfer books or records. When requisitions come or vacancies occur, these records will reveal the names of available candidates. They will reflect the requirements of the positions, and thus the requisitions can be met in the most satisfactory fashion. There has been comparatively little systematic attention given to promotions and transfers. Heads have watched those of unusual ability and have advanced them rapidly. But these are the very ones best able to care for themselves. The largest efficiency will result from the careful study of the average man. The history cards of employees reviewed periodically will usually enable division superintendents to find good material for advancement. The promotions book should cover candidates, positions, efficiency records, abilities and desires.

Scientific promotion and transfer force us to know the needs of the different jobs, and the strong and weak points in the individual workman. What is wanted here, as in all parts of the employment problem, is to chart carefully the opportunities open to the workman, and then to lead him (that is, train him) to appreciate them. This process makes for efficiency and contentment.

VI. GRIEVANCES

1. PURPOSE OF GRIEVANCE MACHINERY

Discipline, if not handled scientifically, is the most delicate and dangerous of all the problems the business manager must meet. The wise handling of misunderstandings, dissatisfactions, and grievances is one of the most important problems now receiving wide attention.

Large-scale management, many think, necessarily forces upon us a military type of economic discipline. The one effective way of securing the necessary obedience is through the power of arbitrary discharge. From this crude conception of discipline, based upon a false psychology, has come a long series of frictions, ill-will, mutual misunderstandings, and heavy economic and social waste.

The scientific business administrator now knows that the *good will* of the employe is a most valuable asset. It is the *chief purpose* of grievance machinery to secure this good will.

Few human problems in business are more pressing than this: How train foremen so that they will deal justly with their men? More and more business leaders are realizing that the problems of industrial discipline are too vital and too delicate to leave entirely in the hands of foremen. Hence the former are developing *special* grievance machinery.

Among the many boards now functioning in the handling of the human relations in business, none calls for more resourcefulness, sound judgment, and fair-mindedness than the grievance board, dealing as it must with the delicate, vital problems of human justice. It is the realization of the business value of harmony and justice that explains the wide interest in grievance machinery.

2. WIDE INTEREST IN GRIEVANCE MACHINERY

The growth of grievance machinery represents a new business philosophy: *Do it because it is right*. The old idea of a subtle, deviating diplomacy is giving way to frankness and facts. It all ties up with the scientific selection of employes, the costly training and the recognized business value of a reasonably con-

tented, happy work force. The arbitrary enforcement by the management of unjust rules affecting working conditions and discipline, unjust removals, and unjust discharges are no longer condoned as formerly. More generally than ever before it is now borne in mind that the just treatment of employees *all along the line* is as important as their initial selection. The ignorance, prejudice, and narrow personality of the foreman must not be permitted to check the full, free flow of scientifically directed energy among the rank and file.

Under modern large-scale management, where the responsible heads are widely separated from the mass of workmen, grievance machinery is absolutely necessary if the executives are to *know* the most vital facts of their business.

In the analysis of 123 trade agreements, existing at the present time between the various street railway companies in the United States and their employees, the significant fact stands out clearly, namely, that in the majority of these cases there is a *lack* of any adequate machinery for handling complaints and grievances, and of open discussion in mutual good faith of matters of serious import between employers and employees.

This lack of complaint machinery is clearly reflected in the *initial* trade agreements. In the later agreements—second and third—this need for grievance machinery becomes less apparent, since there has been a channel established. The chief trouble has been the lack of contact between employer and workman. Now the choked channels are being opened up.

3. CAUSES OF GRIEVANCES

Since discipline is such a delicate and dangerous problem of management, the most important causes of grievances should be constantly kept in mind. These may be briefly summarized as follows:

a. *Vocational misfits*

The best humanity and the best business is to get the right man on the right job *at the start*. Wise, just, original selection will do more than anything else to allay later dissatisfactions. If with scientific relation of the man to the job in the beginning goes the right procedure thereafter, grievances will be reduced to a minimum.

b. *Wage dissatisfactions—initial and progressive wages*

As industry is now organized and administered, more complaints come from wage dissatisfactions than from any other single cause. A careful analysis of the turnover will show a very heavy percentage of people leaving because of (1) a low *starting* wage, (2) a haphazard, inadequate progressive wage, and (3) frequent cuts in wage standards.

Many concerns are now practising, within reasonable limits, the economy of high wages. They are carefully instructing new employes as to what they may expect and under what conditions and *when* wage increases may be expected—every three months, six months, or annually, as the case may be. This is based on careful analysis of output and known individual efficiency. And more than ever before, it looks in the direction of individual reward, not the former group or lump guess methods. Nothing will do more to stimulate efficiency and prevent dissatisfaction, once a man *fits* the job, than to convince him that he will be justly paid for his performance and to assure him that standards will not be cut.

The very core of the industrial conflict rests in the wage system. Here are almost *inherent* contradictions. Hence the great importance of machinery for handling wage dissatisfactions. The workman wants pay according to the *time, strain, speed, work conditions*, etc.. The employer naturally wants to pay in proportion to output. The problem is to bring the two sides together in continuous harmony and reasonable contentment. What the individual really wants is the *right kind of opportunity*.

Efficiency records, carefully kept, and showing productivity, suggestions, errors, punctuality, discipline, initiative, etc., are vital in the just handling of wages. Properly constituted determining boards, with data gathered by careful research in job analysis, can set standards of performance. The operating divisions can then rate the different employes engaged on particular operations against the standard thus set. The rates so set go back to the determining board, which is the final judge of the rates, as it is of the standard set. In this way the determining board will set standards of efficiency, and likewise determine the efficiency ratings of the employes. Questions of just individual pay can then be settled by the wages board.

With adequate wage machinery, productivity and wages are kept in scientific relation. Increases will follow without the employe's asking, or he may be moved to better paying jobs. Demands for wage increase are always difficult. They may become embarrassing and often result in friction.

The most careful studies of the wage problem reveal an intimate relation between wages paid and the turnover. Wages are intimately tied up with the reasons for leaving. The ideal of a minimum starting wage, so as to get a body of picked, steady workers, is good business. And for certain grades of work and for certain ages (the young), the psychology of frequent wage advances is sound. Increases, of course, must follow earning power.

Careful analysis of work requirements, setting standards of performance, passing upon the efficiency of workers, determining wages, especially right initial (minimum) wage, and prompt increases, based on known efficiency, will go a long way in solving grievances.

c. Unsatisfactory working and living conditions

After wages, the rank and file of workers want fair hours and reasonable work conditions. They want good mechanical conditions, good air, light, ventilation, and freedom from unwholesome and dangerous health hazards.

Progressive leaders are working in the direction of *standards*, scientifically determined, for controlling the work environment—standardized safety, health control, working facilities, drinking cups or fountains, light, toilet facilities, cuspidors, lockers, doors, etc.

Conditions outside the work environment, especially home conditions, are often a source of serious discontent. In several well-known instances these outside sources of friction and waste have become known to those in authority through the grievance machinery. In a word, the living day conditions must be taken into account in studying grievances.

d. Inadequate promotion and transfer plans.

Promotion, treated elsewhere, is a vital matter in the study of grievances for all workers. It is especially a critical matter for

the executive staff, the clerical groups, and all those in authority. Jealousies and grievances arise more quickly among the executives over problems of transfer and promotion than among the rank and file. Wages and work conditions come first with the average man. Many executives consider advancement from various points of view as important as wages. Promotion, in a word, does not necessarily include an increase in wage or salary. It has many phases in the study of grievances.

Promotional schemes of rotating employees are delicate and difficult. It is practically impossible to tell a man just how long he is going to be in one position before advancement will come, and sometimes, when known, such knowledge is apt to reduce effort and slacken progress. But where methods of uncovering efficiency are in operation, there is an effective check on actual performance.

There is far more adaptability and versatility in human nature than is commonly believed. Wisely directed, this variability can be used to reduce discontent and friction. It probably permits a large majority of the average employees to be rotated from one job to another. This is especially true in those work positions that do not require prolonged training; that is, if they are not too technical in character, and if they do not fall within one of the definite trades.

Grievances are thus partly controlled and solved by indicating as fully as possible the probable line of progress a new employee is likely to take and what channels are likely to open to him in the way of wages, responsibility, duties, connections, training, etc.

e. *Uncertainty*

Uncertainty is one of the most common causes of dissensions. Everything that can be done should be done to remove doubt and uncertainty. This applies to all, but it is especially applicable to the executive, sales, engineering, and clerical groups. Many among the rank and file do not care, but those responsible for orders, and held to strict account for the performance of others, should have a clearly outlined, definite procedure. In so far as possible all doubt should be removed. Serious loss and waste have come to the notice of the writer because of the uncertainty around the lives of several who are holding positions of large responsibility. Authority is divided. Often duplicate orders

are given. Sometimes one does not know that another has issued the same order or a conflicting order. Chaos rules and jealousies are rife.

Uncertainties can be removed. They should be studied, analyzed and classified. Those within the control of the company should be removed. Those within the control of the employees they should be educated to remove. Those seemingly not within the control of either employer or workman should be handled by the grievance machinery.

The vital point is: Do not permit uncertainties to grow into grievances.

f. Summary of causes of grievances

In summarizing the causes of grievances, it is apparent that friction is apt to arise at almost any stage of the employee's vocational career. To avoid grievances, the entire life history of the workman must be borne in mind—his initial employment, his rate and method of compensation, the works management, his working and living environment, all types of unjust discriminations, his opportunities for promotion, rotation, and transfer, and the manner of his leaving.

4. TARDY ADMISSION OF THE NEED OF MACHINERY FOR ADJUSTMENT

Ask almost any executive while on his guard what machinery he has for handling complaints from the men and women under him, and he will quickly reply that he doesn't need any, or that if a disagreement should arise, he would have the power of decision, with probably an O. K. from the power above.

Recently the president of a very large company in Chicago called all his departmental superintendents together and asked each one to rise and tell in the presence of all the others just how the foremen under each superintendent handled grievances. With one exception, the superintendents all said there were practically no grievances in their departments. One man, however, frankly acknowledged the difficulties of handling such matters. The answers of the others clearly meant one of two things: either they did not know, or they were not honest with the president.

A similar attitude of sufficiency has been met with recently in the case of certain heads of employment departments, who

either do not know intimately what is going on among all their employes, or else disclaim need for a more elaborate mechanism for making adjustments when the occasion arises.

Moreover, even in cases where some method exists for adjusting the relations of minor employes, there may be no means of sensing the dissatisfaction, friction and jealousies which subtly obtain among men higher up.

In several recent instances which have come to the writer's notice, grievance committees have sprung up spontaneously among employes and have resulted in permanent "courts of appeal." In one large manufacturing establishment of 5,000 employes, where hiring and firing is more or less decentralized and departmental control the rule, the men in a certain department—100 in number—felt that their foreman was making too arbitrary use of his power of discharge and forced him to work with an organization among themselves which they improvised as a stalemate to him. As a result of the cooperation developed thereby, this group has been pronounced by the president of the firm to be the most successful of any in the plant in meeting its problems, although he has only recently learned of the existence of this machinery. The point is that not only were the executives ignorant of the need of grievance machinery, but they were unaware of this self-appointed court of appeals within the walls of the firm until a short time ago, after an outside industrial consultant had been called in to look into general conditions.

In another firm, widely known for its enlightened labor policy and having a centralized employment bureau, neither the general superintendent nor the employment manager was aware of a strained situation, which forced the women workers ultimately to bring it to the attention of the management. The superintendent wisely suggested that the women devise some means of solving the problem, and in accordance with this suggestion representatives were elected by the women in each department to take up future adjustments with the management. Moreover, out of this situation has grown a grievance machinery as yet newly tried, on which are represented both management and employes, with strong probability of the plan's being extended to cover the men as well as the women, since it has been found to work well.

Even in the cases where the unions are recognized, the trade

agreements do not furnish methods of developing the utmost cooperation with the management in matters not covered by the agreement, which is concerned mainly with the fundamentals of wages, hours and, incidentally, sanitary conditions. Hence comes the need for additional mechanism within the establishment for taking up sources of minor irritation, and for covering all the employes concerned.

Numerous cases could be cited to show the unwisdom of leaving all vital and delicate problems of adjustment and discipline entirely to any one individual—either foreman, department head, member of the firm, or even employment manager.

Frederick Taylor, who realized better than any other man the inability of the modern foreman to cope with the various functions demanded of him, wisely created the functional position of disciplinarian, who should attend to what we would call "human relations." In other words, he would lift from the shoulders of the foreman the burden of discipline, as well as deprive him of arbitrary power over his men, and centralize this power.

Likewise the tendency seems to be to take out of the hands of any official this large function and place it in the hands of a committee or board, which shall sit permanently. Moreover, more elaborate organization is going forward for preventing those situations from arising which make for dissatisfaction. If there is one tendency more than another which bears the earmarks of being constructive, it is this idea of diffusing responsibility for the study and remedy of dissatisfactions arising out of the conditions under which men and women work.

5. FORMS OF GRIEVANCE MACHINERY

a. *Unofficial*

Industrial nurses and those in charge of welfare work have done yeoman service in getting at sources of dissatisfaction among a certain class of workers, and particularly among the foreign men and women, largely through the intimacy of the home visit, and in taking up matters which need adjustment with the management, in an informal way. Often minor officials of the company attempt in various ways, sometimes by living among the employes or meeting them socially, to get their real reactions

to work relations. But these are backhanded, roundabout methods.

Often not even these channels exist, and, in the absence of any means for adjudication, it is up to the employe to carry his tale to "the front office," which he is naturally loathe to do, in spite of the fact that he is so frequently said to be free to carry his complaint clear up to the vice-president or similar officer if he does not receive proper redress. It was surprising and illuminating to note how few members of the Association, in answer to the questionnaire of the Employment Plans Committee in 1915, reported any real provision in their firms for handling an appeal of a workman from the decision of a boss other than through direct appeal of an employe to his superior—immediate or removed.

b. *Employment office*

Recent investigation and tours of inspection have brought to light the increasing practice for the employment department to become the clearing-house (whether official or unofficial) for voicing the need of adjustments between employer and employe; and this office should be in a strategic position to assume this function because of the fact that no employe can enter or leave the firm, be transferred or promoted, without this fact and the reason therefor being registered there. Moreover, there should be somewhere continuous supervision of the facts of a man's whole work career with a firm—his initial employment, his rate, method and amount of periodic compensation, his working and living conditions, his opportunities for advancement and his responsiveness to them, and a minimum of fair play from his supervisors and fellow workmen. For this reason often questions of wages, transfers, disputes over work conditions and advancements are reviewed in conference with the employment department. It is better still when the Department of Human Relations has the cooperation of determining boards to help set standards of performance, wages, and efficiency ratings and records, and the cooperation of a grievance committee in finding out the facts underlying complaints and adjusting them, as the cases arising are too numerous and their importance too great for the maintenance of industrial harmony to be left to the judgment of single individuals, however wise they may be—a fact recognized by a few

far-sighted executives, who have redistributed the responsibility in their firms so as to have a larger number of debatable questions in the hands of special groups or boards for each *particular problem*, in addition to centralized specialists like the staff of a Bureau of Human Relations. This has occurred in the case of wage boards, boards who pass on efficiency records, promotions, or standards of performance, education boards or committees, safety committees, courts of appeal or grievance boards, welfare boards, and many others, varying in makeup from a composition wholly of officers, to mixed committees or organizations on which the employes are represented, and even in a few cases to organizations wholly manned by employes, the last especially in connection with welfare activities.

Although advanced employment managers are being given more authority as, for instance, in personally interviewing all employes who quit or are discharged by their superiors, and in placing them elsewhere in the firm where this is desirable, there exists the usual loathness on the part of some higher executives to part with the functions and authority which are to be placed under the jurisdiction of the employment department, just as foremen in the beginning have objected to having the functions of hiring, disciplining, discharging and the power of decision in question of wages and promotion taken away from them in large measure. In one instance it was a certain group of executives in charge of production who reported adversely upon the suggestion made by a head of the firm that grievance machinery be experimented with. It would seem that a centralized employment bureau was slowly taking over some of their functions, and their refusal indicated an instinctive unwillingness to delegate to possibly still another outside agency some of their authority, although they based their refusal on the ground that the experiment might be ticklish and unsafe.

c. *Boards or committees of appeal*

In the case of the Dodge Brothers Motor Car Company there are two distinct committees to investigate cases of discharge by foremen and to pass upon them. For employes who have been in the service less than three years a committee, composed of chairman, employment secretary and chairman of the safety committee, sit in judgment; for those of more than three years'

service, the works manager, general superintendent, and secretary-treasurer. Since the enlargement of the labor committee and the thorough investigation of each case of discharge, the company claims to have cut down its discharges 200 per cent.

Variations of this form of board or committee, with the employment manager occupying an important part, are found in other establishments. (Cf. the Ford Motor Company, where the employment board consists of three assistant superintendents and the employment agent.) A Committee on Employment would seem advisable where employment problems are being centralized for the first time, and has been adopted recently by two large corporations in the East which are establishing employment bureaus.

d. *Joint grievance committee*

One firm operating under a well-developed system of scientific management, with a centralized employment department, has in addition recently begun to handle grievances through a joint committee. This committee consists of a union representative, usually the president of the local union; a representative from the department where the grievance occurs; the works manager, who represents the firm, and the employment manager, who is a neutral party on the committee. From a recent report from the employment manager it is learned that so far all grievances thus brought up have been discussed and settled on the basis of the facts, and to the mutual satisfaction of all parties concerned.

Like that of other judicial bodies, the value of the Committees work lies in its function of ascertaining the facts in the case, and in rendering its judgment in accordance therewith, rather than basing it on opinion, guess or whim.

e. *Other democratic means for handling grievances*

Sometimes, as in the case of the newly created Welfare Association of the employees of the United States Cartridge Company* (Lowell, Massachusetts), which was recently established to share the management with the employees and which automatically includes all employees of the Company, a grievance committee of employees receives complaints and passes them on to the

* For Constitution and By-Laws, see Appendix X, p. 413.

Council of the Welfare Association for consideration. The ultimate power of the Welfare Association in passing upon cases of dispute is not stated in the newly drawn constitution, but the fundamental idea behind the inception of this new organization is sound. The value of such a committee lies in the fact that no complaint is too trivial to be brought before it, and that it meets often.

At the Printz-Biederman Company (Cleveland) where, under a federal industrial democracy,* a Senate and House of Representatives deal with every function and procedure within the plant, including shop discipline, methods of working, hours of work, earnings and promotions, there is a judicial body, the Board of Review, which investigates causes of discharge and resignation.

Probably the best worked out system to be found in an individual establishment is that of the William Filene's Sons (Boston). "The employes have been given ample power to correct on their own initiative and without the assistance of the firm any bad or unjust conditions or rules affecting their discipline or work. The firm in turn has secured the hearty cooperation of its people, and its management has been able to give to work, for the growth and success of the business, many hours which might have had to be given to the discipline and handling of employes." †

This cooperation has been assured largely through the powers granted the Filene Cooperative Association, to which, like the Welfare Association of the United States Cartridge Company, every employe of the Company automatically belongs. Within this Association is an Arbitration Board, consisting of twelve members, elected one from each section of the store, and a chairman. The scope of this Board includes all cases in which any member of the Cooperative Association has reason to question the justice of a decision by a superior or the action of an Association committee or member, and its powers extend to all cases of difference relating to:

- (1) An employe and the management.
- (2) Two or more employes in matters of store interest.
- (3) The justice of a rule in question affecting an employe.

The questions most frequently brought before the board are

* For results accomplished under this plan, see Appendix XI, p. 418.

† See booklet issued by the firm, *A Thumbnail Sketch of the Filene Cooperative Association*, p. 5.

dismissals, changes in position or wage, transfers, location in the store, missing sales, shortages, lost packages, breakages, torn or lost garments, differences between employees, payment for suggestions.

In each case the Board conducts an examination into the facts of the case. Its decision is final for all cases arising within its jurisdiction.

Any executive may have any controversy between him and the executive authority of the corporation in respect to his employment arbitrated by a special arbitration committee—one member to be chosen by the executive, one by the corporation, and the third by these two. Decisions given by a majority of these three arbitrators are final.

In addition this firm has determining boards, on which are represented both management and employees, who are trying to work out scientific wage scales, determination of duties, and lines of promotion. In addition, expert effort is directed toward standardizing jobs, determining the individual's rate of efficiency, and rates of pay. Altogether this establishment offers a good example of a firm studying its own problems intensively and scientifically, with a view to establishing standards and to preventing conditions which give rise to internal friction.

In the above instances potential machinery making for more harmonious relations have been described. It would have been equally helpful to the Association if the results of their administration were known in detail. The importance of this subject lies in the fact that these various forms of organization can be made to function effectively if the management so desires. The most perfectly drawn plan in the world will fail if it is not carried out in good faith, if the officers are practically dictated from above, or if the personnel is incompetent or unfortunately chosen. Again, the management might attempt to override the court of appeal, as has been done in the case of a board that had been given final authority by the management in certain matters.

However, it is most encouraging to note that recent first-hand expressions of opinion from a number of large firms of the Middle West confirm the belief that establishing a court of appeal, in addition to maintaining friendly relations with the new worker and showing a personal interest in him and his progress, goes a long way in reducing turnover.

VII. MANAGEMENT SHARING

Management sharing is no new idea. Executives are driven to it on account of their herculean burdens, even though they have not always heretofore consciously prepared their employes for sharing these responsibilities.

You remember how Jethro rebuked Moses, the lawgiver of Israel, for wearing himself out with rendering decisions for the multitude instead of raising up a body of assistants to take the details off his hands, saying:

The thing that thou doest is not good. Thou wilt surely wear away, both thou, and this people that is with thee, for this thing is too heavy for thee; thou art not able to perform it thyself alone. . . . Thou shalt teach them [the people] ordinances and laws, and shalt show them the way wherein they must walk, and the work that they must do. . . . So Moses hearkened to the voice of his father-in-law, and did all that he had said. And Moses chose able men out of all Israel, and made them heads over the people, rulers of fifties and rulers of tens. And they judged the people at all seasons: the hard causes they brought unto Moses, but every small matter they judged themselves. (Exodus 18:16-27.)

1. PARTNERSHIPS IN MANAGEMENT

The three firms * which have associations of employes to sit with the management are the Printz-Biederman Company, the William Filene's Sons Company, and the United States Cartridge Company. There are doubtless others; in fact three other establishments have recently been reported as operating under the "Federal Plan," that adopted by the first-named company.

The Federal Plan, as found in the Printz-Biederman Company † consists, in short, of two legislative branches, which deal with every *function* within the plant, including shop discipline, methods of working, hours, earnings, and promotions. The House consists of representatives elected by the workers; the Senate, of foremen and superintendents, in a measure automatically self-appointed. Above these sits the Cabinet, consisting of the officers of the Company. A glance through a few sample minutes kindly furnished by the management reveals the following questions considered under the Federal Plan:

- (a) Proposal for a 48-hour week schedule, methods for work-

* Coming within the notice of the chairman of the committee.

† For report of progress, see Appendix XI, p. 418.

ing it out, and degree of cooperation needed therefor among the employees.

(b) Proposal for a Wage Review Board.

(c) Plan for compiling and reviewing efficiency records.

(d) Plan to equalize work for all over shorter hours rather than lay numbers off.

(e) Sending a committee from the cutting department to investigate the wage system and setting of standards of a well-known company in Philadelphia.

The oldest and best known of these employees' organizations is the William Filene's Sons' Cooperative Association,* to which every regular employe belongs by virtue of employment. To this Association is given large power. For instance, if two-thirds of its members vote in mass meeting to change, initiate, or amend any rule that affects the discipline or working conditions of the employes of the store, such vote becomes at once operative, even against the veto of the management. The Association is also represented on the Board of Directors. Under the direction of the Association function the Arbitration Board,† Committees on Insurance, Club House, Deposit and Loan Bureau, Library, Health, Lecture, Finance, Entertainment, Athletics, Music, Suggestions, Publication; also the Medical Department.

The Filene Company frankly states that this opportunity for self-government to its employes has paid the firm handsomely as an investment for its outlay of time and money, and that this development of the individual through cooperative undertakings has meant a better personnel and newer and higher standards. Moreover, the scheme has demonstrated the value of establishing a voluntary minimum wage ‡ high enough to insure a first-class employe who will respond to the advantages afforded by a connection with this firm.

Likewise the United States Cartridge Company has recently instituted a Welfare Association of employes,§ whose purpose is similar to that of the Filene Cooperative Association; that is, to put into the hands of the workers the direction of a considerable

* See booklet, *A Thumbnail Sketch of the Filene Cooperative Association*.

† Described on p. 357.

‡ Adopted some time in advance of legislative enactment.

§ For Constitution and By-Laws, see Appendix X, p. 413.

body of functions. This industrial experiment, involving a total of 8,000 workers, will be watched with keen interest.

2. EMPLOYEES' DIRECTION OF WELFARE

The Jeffrey Company furnishes a good example of the Company's carrying on a number of "Welfare" activities through the leadership of its employees,* and at minimum expense. In starting any new activities it is the policy of the company to convey to the employees the impression that it will heartily encourage and assist anything the men may propose, but the initiative and responsibility rest absolutely with the operatives. Other wise executives have hit upon this principle independently. As was aptly put upon the floor of the Convention last year by Dr. Risteen: "The difference between a suggestion that comes from headquarters *down* the line, and one that comes from the employees *up* the line, is much the same as the difference between one's own baby and somebody else's baby."

At the Jeffrey Company the following activities are conducted by committees of employees:

1. Mutual aid association.
2. Hospital with doctor and trained nurse in charge.
3. Thoroughly equipped restaurant.
4. Building and loan association (96 houses built and purchased within the last three years; board of directors composed of employees.)
5. Cooperative stores, including bakery, dairy farm, ice-cream and lard rendering plants.
6. Orchestra and choral society.

The Company paper is intended by the Company to be distinctly an employee's paper. Most of the articles are written by the workmen, and nothing is allowed to go into the paper that is not written by some employee of the Company.

The Company's wise policy in fostering self-direction among its employees has resulted in developing a spirit of loyalty and cooperation that has appreciably lessened the turnover, in the opinion of the management.

* Other instances of activities carried on by employees, to greater or less extent, are too numerous to mention, and may be found among a number of firms belonging to The National Association of Corporation Schools.

3. COOPERATION IN HEALTH AND SAFETY

Probably in the factory no general movement has been so instrumental in showing how far cooperation can be intelligently developed among all classes of men and women as the safety movement. Thereby the expert engineer or inspector, the superintendents and foremen, and the workers are welded together in an organization within an organization whose prime purpose is to prevent accidents. This working together through committees not only makes the men more intelligent about safety, but it gives a chance for the men from the top and the bottom and middle to get together on a common basis. Rotation of office gives practice to the committees of workmen in responsibility which is of great educational value, especially since they inspect, investigate, suggest, and mete out discipline. The complaint has been made that workmen are dissatisfied to go back into obscurity after they have once tasted of service on a safety committee. The same method of having executives and lesser employes working jointly to promote the common welfare of the establishment can also be utilized in problems other than safety; and in those instances where safety machinery already exists, it could easily be extended to include the maintenance of health as well. The Committee on Health and Safety of the National Cash Register Company, of over one hundred members, has already been instanced.

4. OTHER FORMS OF COOPERATION

It also has been found desirable to evaluate the work of a foreman by the number of workable suggestions emanating from the men under him, although there is a natural tendency among heads to want to be considered the brains of the department, so employers say.

Of course those employers who do not believe in developing employes along the lines laid down above will not find much here of benefit. For instance, in the case of a large manufacturing company whose profit-sharing scheme attracted world-wide attention when initiated and whose employes are over fifty per cent. foreign, the company does not lay any particular stress upon the formation of clubs, being generally opposed to frater-
nism. Although it exercises the strictest supervision over the

home life of its workers, it does not offer opportunities in work relations for the rank and file to learn to share responsibility and develop ability other than to carry out the orders of the firm. It might be well to state here that employers can justify their paternalistic direction of the home life and leisure of their employes only in so far as they offer through the work relationship opportunity to participate in activities which will eventually make continuous supervision of outside living progressively unnecessary.

An instance where a company is working independently of its force in the matter of safety has recently come to light. Standards of safety in mechanical devices and tools have been worked out by the management on a large scale, but a considerable per cent. of accidents occurring is chargeable to the carelessness of employes, so the management claims. To overcome this situation the company is contemplating through safety committees and inspectors extending the participation in accident prevention to larger numbers. Taken in the light of the friction which evidently exists in this establishment, the experience of the company in safety work is typical of its relations with the rank and file of its large force, in that it has not seen fit to enlist their cooperation in matters of vital importance to it.

In one garment-making establishment of the Middle West, whose welfare work is carried on largely through committees of employes, there is a movement afoot to form a Rules Committee to meet with the management in considering rules. It is proposed to grant hearings and receive recommendations, and not to amend rules until approved of by both management and workers. Already the election of representatives is proceeding, according to a recent announcement of its house organ.

A similar tendency of the times is reflected in the announcement by the management of a plant, known as one of the most scientifically managed in the country, of a club among employes which in time "will be a house of representatives to which every one can bring matters for general discussion and fair decision," and "which gives an employe the best of opportunities to gain knowledge regarding the business and an unexcelled chance to grow with the Company."

PART III.—APPENDICES

APPENDIX I

THIRTY CONCERNS TO HELP NEW BUREAU OF SALESMANSHIP RESEARCH

(Plan of the Work Which Will be Carried on In Connection
with Carnegie Institute of Technology)*

A Bureau of Salesmanship Research has been organized at Pittsburgh, Pa., and will be affiliated with the Carnegie Institute of Technology. The institute will supply quarters, library and laboratory facilities and other things needed to carry on the work.

The new bureau is coming into being as a result of the active efforts of big business men to establish better methods of selecting salesmen. The fact of the matter is that when a house employs a new man, spends its time and the time of its organization breaking him in, and eventually makes an investment of from \$2,000 to \$5,000 in him, it is rather irritating to learn, as it is learned in a large proportion of cases, that the employer has "guessed wrong," and that somebody else must be selected to fill the job.

SCOPE OF THE BUREAU

The work of the new bureau, which will begin actual operations June 7, 1916, is interesting also because it calls attention to the importance of the new profession, as it might be called, of employment manager. Large corporations have found it necessary to organize the departments for "hiring and firing" upon a permanent and systematic basis, and the selection and

* Reprinted from *Printers' Ink*, Vol. XCV, No. 1 (April 6, 1916), pp. 104-106, by courtesy of the managing editor. Information contained in the article furnished largely by Professor W. V. Bingham, of the Carnegie Institute of Technology.

equipment of these employment managers form a subject which has come in for a lot of study. The Bureau of Salesmanship Research, in addition to undertaking the development of better methods in selecting salesmen, will provide standards for the selection of employment managers themselves, and will also serve as a clearing-house for ideas on this general subject.

Edward A. Woods, head of the Pittsburgh general agency of the Equitable Life of New York, which is the largest life-insurance agency in the world, is given credit for originating the idea for the new bureau. Mr. Woods is president of the National Association of Life Underwriters, and is a close student of sales efficiency in his own field, which is generally regarded as the most difficult of all in which to secure and develop good men.

Mr. Woods is chairman of the bureau, under its temporary organization, and associated with him are the following companies, with their representatives: Carnegie Steel Company, Pittsburgh, John McLeod, assistant to the president, and president of The National Association of Corporation Schools; Ford Motor Company, Detroit, Norval A. Hawkins, sales manager; Equitable Life Assurance Society, New York; Carnegie Institute of Technology, Pittsburgh, Arthur A. Hamerschlag, director; Armstrong Cork Company, Pittsburgh, C. D. Armstrong, president; Metropolitan Life Insurance Company, New York, George H. Gaston, second vice-president; H. J. Heinz Company, Pittsburgh, L. S. Dow, sales manager; Westinghouse Electric & Mfg. Company, Pittsburgh, S. L. Nicholson, sales manager; Phoenix Mutual Life Insurance Company, Hartford, Winslow Russell, agency manager; Chalmers Motor Company, Detroit, Hugh Chalmers, president; Paige Detroit Company, Detroit, H. M. Jewett, president; Prudential Life Insurance Company, Newark, N. J.

The scientific staff is headed by Dr. Walter Dill Scott, who will go to Pittsburgh, June 1, to assume the direction of the bureau, for which his close relationship with many large businesses in connection with work of this sort has peculiarly fitted him.

Associated with Dr. Scott will be Dr. W. V. Bingham, of the Carnegie Institute of Technology; Dr. J. B. Miner, of the same institution; and Dr. G. M. Whipple, of the University of Illinois. In addition, a research assistant and several Research Fellows are still to be appointed.

HOW BUREAU WILL BE ORGANIZED

The plan of organization of the bureau is described as follows :

"It is proposed to select, as cooperating members of the bureau, thirty of the foremost sales organizations in the United States, of such variety that the whole field of salesmanship will be covered. The selection will be made from firms deeply interested in the problems of increasing efficiency, reducing wastage and damage from failures and reducing the heavy loss from a constantly shifting force.

"To provide for the preliminary experimental and research work of the organization, an annual payment of \$500 for five years by each cooperating member is required. The business firms of Pittsburgh, Detroit and New York who initiated this movement have at the present time underwritten practically all of the sum called for in this budget. This preliminary financing, aggregating \$15,000 a year from the thirty members, will be utilized in establishing the bureau, and particularly in the research necessary to work out in the course of time more effective methods both of selecting and educating salesmen.

"The headquarters of the bureau will be at the Carnegie Institute of Technology in Pittsburgh, which has from its outset made vocational training its first aim. From this center constant contact with cooperating members will be maintained not only by bulletins and correspondence, but by visits of the staff to the cooperating members. The Carnegie Institute of Technology will furnish offices, technical library facilities, and its complete and growing equipment of the best psychological apparatus for making mental tests. Special quarters for the bureau are being provided in a new building to be erected during the coming year."

APPENDIX II

SELECTION OF EMPLOYEES BY MEANS OF
QUANTITATIVE DETERMINATIONS*

By PROFESSOR WALTER DILL SCOTT

Northwestern University†

I. NON-QUANTITATIVE

Historically, it has been the practice of many commercial and industrial organizations to recuperate their forces of employees by the employment of young boys and girls as helpers for menial service. The wages paid these employees were small, and no careful selection was deemed essential. These helpers were given no systematic instruction. There was no plan in routing them from one position to another in order that they might learn the whole or any significant part of the business. Promotion from the ranks was insisted upon in many instances, even though no attention was given to preparation for such promotions. The children who accepted such positions were frequently those who had already failed in school. Their failures were mainly due to lack of interest in school work, and this lack of interest could usually be traced to a lack of native intellectual ability. The ranks were therefore filled by many who had already proven themselves to be incompetents. No attempt was made to make the most of this defective native ability, and yet the executive assumed that the higher positions must be filled by recruits from this untrained group of intellectual weaklings. This absurd method of selection is still in existence in many firms.

In certain houses the selection was based upon an inadequate

* By courtesy of Professor Scott, this article was furnished for use in the present report simultaneously with the sending of a copy by him to the *Annals of the American Academy of Political and Social Science* for publication therein.

† The author of the article states that the names of the firms to which the experiments have reference will be given upon request to parties to whom the firms concerned are willing to have their names given. Professor Scott was a member of the Committee on Vocational Guidance of The National Association of Corporation Schools for the year 1914-15.

estimation of the technical ability of the applicant. This ability was judged by the number and nature of positions previously held or by a sample performance on the part of the applicant. This sample performance in some cases meant a try-out for one or more days.

In some instances the native ability of the applicants has been estimated—but inadequately. This judgment was based on the ability of the applicant as expressed in general terms by friends or by some statement as to the grade in school to which the applicant had attained. Not infrequently the statements as to the intellectual ability were supplemented by general statements as to the moral character and health.

In all the methods thus far referred to no records were kept of the findings of the employer and, in fact, no records could be kept because none of the findings were reduced to terms of measurement.

II. QUANTITATIVE DETERMINATIONS

During the last two years the writer has been attempting to reduce to quantitative determination all methods heretofore used in selecting employees and to supplement these where necessary.

One factor frequently recognized in the selection of employees is that of the *Previous Record*, but unfortunately this very important factor is frequently regarded as useless because of the impossibility of securing trustworthy and usable information from previous employers. In attempting to secure more trustworthy and usable information the following blank has been devised and used successfully:

BLANK 1

.....1916

.....

.....

Dear Sir:

Mr..... of
has applied to us for a position as salesman and given you as
reference. He states that he was employed by you as.....
.....for a period.....

Will you please advise whether this information is correct?

Why did the applicant leave your employment?

Please place a check mark in the space below that indicates the character of his service:

	Good	Fair	Unsatisfactory
Work	()	()	()
Conduct	()	()	()
Ability	()	()	()
Character	()	()	()

Would you be willing to re-employ him?

Would you recommend him for the position applied for?

Out of ten men filling the position which the applicant held with you, what would be his comparative rank?
(If he would be the best, please mark his rank 1; if the poorest, please mark his rank 10; this estimate is, of course, only an approximation, but we will greatly appreciate your best judgment in the matter.)

Sincerely yours,

.....

This blank does not encourage the former employer to use general and meaningless expressions, but whatever he says may be readily used in quantitative determinations. Unfortunately, a great flexibility seems necessary in the use of the blank, but where possible a demand is made that this blank should be filled out in full by the three last employers, if the applicant has had that many. With these blanks before him the employment manager can change the data to a percentage basis. For instance: if all the previous employers fill in all the blanks under "Good" and put a (1) in the last paragraph, the applicant is then given 100% on Previous Record. Corresponding percentages are given for all the various combinations found in the blank.

The *Physical Condition* of the applicant is judged by an experienced physician, who makes his reports in quantitative terms. His viewpoint is not that of longevity, but of health and vitality in relation to the service to be performed. The applicant whose physical organism seems best adapted for the type of work contemplated would be given 100% on physical condition. Anything less than an ideal physical organism is graded less than 100%, depending upon the degree of defectiveness. Although experiments have been carried on, as here indicated, satisfactory results have not yet been secured; but, at least, a good beginning has been made.

The *Native Intellectual Ability* of the applicant is determined by means of a series of mental tests which test, not the learning, but the native ability. The series of tests employed are adjusted to the general type of applicants and the nature of the service to be rendered. For some positions emphasis is placed on inventive ability, for others on initiative, for others on quickness of thought, etc., etc. The applicant is then graded by a percentage figure indicating the native ability in each of the qualities under consideration, as well as by a single figure to express the entire native intellectual ability so far as tested. The blank here reproduced is one that has been used with good success in testing salesmen for several organizations. The applicant is given 100% in speed if he completes the blank in ten minutes, 0% if he completes it in 60 minutes, 50% if he completes it in 35 minutes, etc. He is given a grade of 100% in accuracy if he makes no errors. Correspondingly lower grades are given for various mistakes or numbers of mistakes. No attempt has been made to determine definitely the particular mental ability tested by this blank. Although its use has been discontinued because of improved substitutes, it might well be given as a fair sample. It was never given except as one of a series of tests, as no adequate conclusion can be based on the findings of a single test.

BLANK 2

TEST I

Read the General Directions before you do anything else

General Directions :

Do what the printed instructions tell you to do.

Do not ask the examiner any questions about the examination.

Do not ask any other person who is taking the examination any questions or watch anyone to see what he or she does.

Work as rapidly as you can *without making any mistakes*.

If you do make a mistake, correct it neatly.

Do 1 first, then 2, then 3, and so on.

1. Write your name and permanent address here.

.....

.....

Instructions for 2, 3 and 4:

After each word printed below you are to write some word, according to the further directions. Write plainly, but as quickly as you can. If you cannot think of the right word in about 3 seconds, *go ahead to the next*.

2. Write the *opposites* of the words in this column, as shown in the first three.

good—*bad*
day—*night*
up—*down*
long—
soft—
white—
far—
up—
smooth—
early—
dead—
hot—
asleep—

3. Write words that fit the words in this column, in the way shown in the first three.

drink—*water*
ask—*questions*
subtract—*numbers*
sing—
build—
wear—
shoot—
scold—
win—
answer—
weave—
wink—
mend—

4. Write words that tell what sort of a thing each thing named is, as shown in the first three.

lily—*flower*
blue—*color*
diamond—*jewel*
oak—
measles—
July—
shark—
quinine—
beef—
canoe—
banana—
Atlantic—
Alps—

5. Add 17 to each of these numbers. Write the answers as shown in the first three.

29 *46*
18 *35*
60 *77*
64
49
62
57
68
74
53
67
25
40

6. Get the answers to these problems as quickly as you can.

1. What number minus 16 equals 20?
2. A man spent $\frac{2}{3}$ of his money and had \$8 left. How much had he at first?
3. At 15 cents a yard, how much will 7 feet of cloth cost?
4. A man bought land for \$100. He sold it for \$120, gaining \$5 an acre. How many acres were there?
5. If $\frac{3}{4}$ of a gallon of oil costs 9 cents, what will 7 gallons cost?
61
71
33
38
28
65
41
50
42
58

7. Write opposites for this column, as shown in the first three. If you cannot think of the right word in about 10 seconds, go ahead to the next.

bravery—*cowardice*

friend—*enemy*

true—*false*

serious—

grand—

to win—

to respect—

frequently—

to lack—

apart—

stormy—

motion—

forcible—

straight—

to hold—

after—

to float—

rough—

to bless—

to take—

exciting—

clumsy—

unless—

8. Write in each line a fourth word that fits the third word in that line in the way that the second word fits the first, as shown in the first three lines. If you cannot think of the right word in about 10 seconds, go ahead.

color—red ; name—*John*

page—book ; handle—*knife*

fire—burns ; soldiers—*fight*

eye—see ; ear—

Monday—Tuesday ; April—

do—did ; see—

bird—sings ; dog—

hour—minute ; minute—

straw—hat ; leather—

cloud—rain ; sun—

hammer—tool ; dictionary—

uncle—aunt ; brother—

dog—puppy ; cat—

little—less ; much—

wash—face ; sweep—

houseroom ; book—

sky—blue ; grass—

swim—water ; fly—

once—one ; twice—

cat—fur ; bird—

pan—tin ; table—

buy—sell ; come—

oyster—shell ; banana—

9. Do what it says to do as quickly as you can, but be careful to notice just what it does say.

With your pencil make a dot over any one of these letters, **F G H I J**, and a comma after the longest of these three words: **boy mother girl**. Then, if Christmas comes in March, make a cross right here.... but if not, pass along to the next question, and tell where the sun rises..... If you believe that Edison discovered America, cross out what you just wrote, but if it was some one else, put in a number to complete this sentence: "A horse has.....feet." Write *yes*, no matter whether China is in Africa or not.....; and then give a wrong answer to this question: "How many days are there in the week?" Write any letter except *g* just after this comma, and then write *no* if 2 times 5 are 10.... Now, if Tuesday comes after Mon-

day, make two crosses here.....; but if not, make a circle here..... or else a square here..... Be sure to make three crosses between these two names of boys: George..... Henry. Notice these two numbers: 3, 5. If iron is heavier than water, write the larger number here....., but if iron is lighter, write the smaller number here..... Show by a cross when the nights are longer: in summer?..... in winter? Give the correct answer to this question: "Does water run uphill?"..... and repeat your answer here..... Do nothing here ($5+7=$), unless you skipped the preceding question; but write the first letter of your first name and the last letter of your last name at the ends of this line.....

10. Place in the bracket preceding each English proverb the number of the African proverb to which the English proverb corresponds in meaning.

*English Proverbs**African Proverbs*

- | | |
|--|---|
| () Married in haste, we repent at leisure. | 1. One tree does not make a forest. |
| () Answer a fool according to his folly. | 2. "I nearly killed the bird." No one can eat "nearly" in a stew. |
| () One swallow does not make a summer. | 3. Full-belly child says to hungry-belly child, "Keep good cheer." |
| () First catch your hare. | 4. Distant firewood is good firewood. |
| () Adding insult to injury. | 5. Ashes fly in the face of him who throws them. |
| () Curses come home to roost. | 6. If the boy says he wants to tie the water with a string, ask him whether he means the water in the pot or the water in the lagoon. |
| () Distance lends enchantment to the view. | 7. The ground-pig said: "I do not feel so angry with the man who killed me as with the man who dashed me on the ground afterward." |
| () We can all endure the misfortunes of others. | 8. Quick loving a woman means quick not loving a woman. |

Just as soon as you finish, give your paper to the examiner so as to get credit for having completed the work before time was called.

The *Technical Ability* of the applicant is reduced to quantitative determinations by various devices. Applicants for statistical positions are tested by means of the following statistical blank. This blank was devised for and used by an organization having a large amount of statistical work of the general type here indicated. The applicant is given 100% in speed if he completes the task in 25 minutes, and he is discredited 2% for each minute thereafter. He is given 100% in accuracy if he makes no mistakes: 5% is deducted from his grade for each error.

His handwriting is determined by the appearance of his copy of the names and the numbers which immediately follow them. This transfer to quantitative determinations is made by means of the Ayres' Scale for Handwriting.

BLANK 3

Name

Perform all the additions and multiplications called for in the following problems:

ADDITION EXAMPLES

17	26	27	72	23	45	52	19	45	23
42	51	24	14	47	13	86	78	67	72
38	47	83	39	86	68	23	67	78	36
91	82	19	81	54	77	35	23	37	68
54	63	45	26	36	86	67	86	96	39
41	53	67	78	86	17	42	38	91	36
52	67	86	37	32	26	51	47	82	26
86	34	23	96	44	27	24	83	19	45
23	78	45	72	36	72	14	39	62	63
35	19	67	23	68	23	47	86	54	54
—	—	—	—	—	—	—	—	—	—

MULTIPLICATION EXAMPLES

7986	7869	9867
4523	5324	3425
—	—	—
8679	7968	7698
3542	3254	5423
—	—	—

Transcribe this page onto the next page. Make every figure and letter so that it can be read easily.

W. H. Abelman.....	9685247
W. H. Abelman.....	1352680
Edward Adam	573828
Edward Adams	753823
Wm. Anderson	56308
Wm. Anderson	56308
Peter Andersen	48365
Peter Anderson	48365
Benj. Andruskowitz ...	100085
Thomas Andruskowich.	110085
John Anglin	842745
Thomas Anglim	842745
E. J. Atchison	960261
E. J. Atcheson	960261
L. A. Auston.....	960162
Bachalc Wm.....	372819
Bachale Wm.....	272819
J. Balderton	100278
J. Balderson	102278
August Bansback	26710
Chas Banschback	95525
Chas Barnett	52617
Chas Burnett	82910
Henry Burnett	111456
Thomas Burrett	867543
Andrew Bartoli	142567
Paulina Bartold	55555
John G. Battershill.....	42890
A. Batterson	81392
A. E. Bauermeister.....	185
Henry Baumeister	67540
Wallace Beaman	10025
T. Baeman	56470

Transcribe the preceding page onto this page as is indicated on the first three lines.

<i>W. H. Abelmann</i>	<i>9685247</i>
<i>W. H. Abelmann</i>	<i>1352680</i>
<i>Edward Adam</i>	<i>573828</i>

Look at each pair of numbers. Make a cross after every pair where the two numbers are *not* alike (as shown here):

		907328	907329×	760023	760023		
		216540	216540	297500	297600×		
		856728	847628×	107910	107910		
		700035	70035×	864271	864271		
		380270	380270	915823	715823×		
286090	289060	329865	329865	702645	702645	908701	908701
976534	976534	574052	574052	610124	611124	116872	116872
821004	821004	738216	783216	503763	503763	805794	805794
598362	598362	895422	895422	921821	921821	248067	248067
774819	747189	635767	635767	869030	863090	753915	753915
612345	612345	942424	942424	274502	274502	310283	210283
400705	400005	432615	432615	485734	485734	601943	601943
309268	309268	133002	133302	697685	697685	439250	439250
978882	978882	325961	325961	806960	806960	583622	583922
538620	538620	473820	473820	378117	378171	927474	927474
700214	700214	562143	562942	145900	145900	845825	845825
800000	800000	997723	997723	238392	238392	646935	646935
613579	613572	714926	714926	39273	39273	767561	767561
200140	200140	831125	831125	901284	901284	385000	380000
531251	531251	642030	642030	861357	861357	466799	467699
732124	732124	214728	214728	450549	490594	674887	674877
414362	414362	192563	192365	546457	546457	589746	589746
349093	349093	643215	643245	673860	673860	291968	291968
955785	95785	571326	571326	896812	896812	109590	109590
267682	267682	800026	800026	782933	782833	323041	323041
127003	127030	304349	304349	638542	638542	347391	347391
281114	281114	515420	515420	596169	596169	252824	252824
620259	620259	915656	915656	405970	405970	861753	861735
731622	736122	767817	787617	924441	92441	486798	486798
443378	443378	821738	821738	133508	133508	719060	719060

The technical ability of the applicant for a selling position is determined by means of a selling performance as indicated by the following "Instruction to Applicants" blank. Each "Buyer" estimates the selling performance on a percentage basis. The estimates of these several "Buyers" are combined into a single grade expressive of the applicant's technical ability as a salesman. Whatever the technical ability is, it must be expressed in quantitative terms before it becomes serviceable.

BLANK 4

INSTRUCTION TO APPLICANTS

In Room A is a merchant who is to be regarded as a "buyer." You are to enter Room A, introduce yourself to Merchant A, and try to sell him some kind of merchandise. You will spend five minutes with Mr. A, then pass on to Room B and repeat your selling talk to Merchant B. You will keep this up till you have called on all the "buyers."

You may sell any line of merchandise. The following are examples: automobiles, breakfast food, clothing, fountain pens, life insurance, office supplies, real estate, rubber goods, sporting goods, tobacco, typewriters, etc., etc.

You may make the same talk to each "buyer." If you decide to sell an automobile, then you may assume that each of the merchants is an automobile dealer. If you decide to sell a breakfast food, then assume that each "buyer" is a grocer, etc.

Present your merchandise for five minutes in such a way that the "buyer" will actually want to purchase your line. Sell as you would if the "buyer" were a real prospective.

Prepare your line of talk in advance!

The *Personality* of the applicant is an important factor, but one particularly hard to reduce to quantitative determinations. The method which the writer has been employing is to have several "Interviewers" pass judgment upon the applicant. This judgment is based on personal appearance, tact, industry, promise of usefulness to the company, etc. Whatever the qualities are that are judged, the "Interviewers" must summarize their judgment in a single figure, ordinarily, but not necessarily, a percentage figure. The judgments of all the "Interviewers" are then combined into a single figure expressive of the personality of the applicant.

Some of these five quantitative determinations cited are of more importance than others, but all must be combined into a single figure. This may be done by weighing the different figures according to their relative importance. The advantage of these different quantitative determinations and of the one summarized quantitative determination is that it makes it possible to com-

pare these original estimates with later success. The adequacy or inadequacy of the parts of the test or of the whole system of testing can thus be accurately determined. In this way any particular test is eliminated if the prognosis based on that test fails to correspond to the later history of the worker. The chief advantage of the methods indicated above is not in having the right methods of testing to start with, but in having a method of handling results which make it possible to eliminate the unsuccessful factors in the test and to strengthen those factors which are successful. This enables us to develop tests in the line of success as indicated by practice and not within the line which might be assumed by theory. If this method should claim the prerogative of "scientific," it would base the claim not upon the fact that it utilizes the findings of the medical examiner, not upon the fact that it utilizes the findings of experimental psychologists, but upon the fact that it reduces the entire process to measurable terms which may be checked up by known and recognized standards.

APPENDIX III

THE WORK OF THE EMPLOYMENT DEPARTMENT
OF THE DENNISON MANUFACTURING
COMPANY (FRAMINGHAM, MASS.) *

By P. J. REILLY

Employment Manager.†

The employment department of the Dennison Manufacturing Company was established on its present basis on January 1, 1914.

This department was expected to improve the human relationships and to reduce the labor turnover of the industry (a) by making a careful study of the requirements of its various occupations; (b) by engaging persons who could best meet those requirements and see that they were adequately instructed; (c) by transferring to other occupations any promising employes who were unadapted to the first job, and (d) by heedfully noting the reasons given by employes for quitting, so that steps could be taken to eradicate any common cause that was making employes dissatisfied and causing them to leave.

Although studies of other phases of employment work were of assistance, it was mainly through the careful study given to the foregoing divisions of placement work that the employment department was able, in a large degree, to accomplish the expected results.

In the Dennison factory about 10 per cent. of the force of 2,200 employes are engaged in the so-called skilled trades. This small group represents machinists, electricians, carpenters, compositors, electrotypers and pressmen. The balance of the force represents those who were unskilled when they were engaged. Many employes in this group, however, are on jobs which require just as

* This is the duplicate of an article which appears in the May (1916) issue of the *Annals of the American Academy of Political and Social Science*. Reproduced by courtesy of the author and of the editor of the *Annals*.

† Mr. Reilly is a member of the Committee on Employment Plans of The National Association of Corporation Schools.

long an apprenticeship and whose requirements are just as exacting as the "skilled" trades. Of this larger group about 60 per cent. are females and 40 per cent. are males, and those in this group follow some 150 different occupations, many of which will be found only in this industry. The chief problem in selection has been to obtain satisfactory non-skilled employees for these jobs.

The employment department prepared and has on file written specifications covering each of the jobs for which non-skilled labor can be hired. These specifications were prepared with the cooperation of the head of each factory department. They contain all the information that each foreman's experience could yield that was of value in selecting employees for every occupation in his department.

These job specifications also contain a brief description of the duties of the job; the schooling or the sort of experience that is desirable in an employee; the posture of the employee, that is, whether employee will be sitting or standing, stooping or walking; the preferable age, weight, and height of an employee; whether employee should be right—or left-handed; the starting wage; the time taken by an average employee to earn an advance in wages; the probable maximum earnings of the position, and whether the job is steady or seasonal.

The information revealed by these job analyses led to a grading of jobs according to the usual maximum earnings of each. The positions having the lowest earnings were designated as "C" positions; those with a little higher wage range were designated as "B" positions, and the most desirable places of all with the highest wage range were designated as "A" positions. By grading positions according to the wage range of each group, the employment department was able to fill vacancies in grade A by transferring an employee from a grade B position, or if none was available by transferring an employee from a grade C position. This policy of promotion from within opened new channels to advancement and has resulted in the organization obtaining a higher type of employee for the grade C jobs, because even these have the "prospects for advancement" which are needed to sustain the interest of the new employee who is ambitious.

Requisitions for new employees are sent on a printed form to the employment department. These are usually sent at least several days before the employee is needed. For this reason the

company is able to select applicants from its waiting list who are working elsewhere but who can be released from their employment by giving adequate notice of their intention to change. Applicants are asked to give this notice to their employers before they are engaged by the Dennison factory. This reminds them of an obligation that they should discharge, and this custom has resulted in their invariably notifying, several days in advance, their department foreman in our industry of their intention of quitting.

In selecting from our waiting list an applicant for a given position, we review the information which the interview and application blank have revealed. If it is decided that an applicant can meet the requirements of a certain job, we then give consideration to any influences external to the industry which may cause the applicant to leave. We ascertain why he seeks employment with us ; where he regularly lives ; what his earnings were in his former position, and why he left it. In most cases we can get in addition other information from persons in our employ, the names of whom are usually given by applicants as references.

When an applicant is engaged, the requirements of the position he is about to fill are clearly outlined to him. For this purpose the job analysis is followed so that every point which should interest the new employe will be covered. On the subject of wages, care is used to underestimate slightly the probable earnings, so that the new employe is not misled by a too favorable outline of the job. He is informed concerning the hours of employment, of the advantages that come from steady work, and of the aims of our organization.

When an employe reports for work he is given a copy of our "Book of Information and Instruction," on the cover of which is printed his name and his department number. This book explains the industrial service activities of our industry. This includes an explanation of the Dennison suggestion system, under which employes may obtain cash awards ; the advantages of membership in the Mutual Relief Associations ; the operation of the factory savings and loan fund ; the circulating library, and other company activities which offer many advantages to the employes. This book also urges employes to avoid accidents and explains the provision of the Massachusetts workmen's compensation law, under which all employes are insured.

The new employe is then sent to the training department where he is taught the special knowledge necessary to equip him for his position. He is shown the most approved and best methods for doing the work, as determined by the time study work of the efficiency department. He is taught such correlated knowledge as the principles of machine constructions, how the materials he uses are made, and how to care for them. When the employe is familiar with the work he is to do, and is able to earn a specified wage, he is transferred to the actual manufacturing department.

The purpose of this training department is twofold. Its first function is to fit the new employe for his particular work in the plant. It relieves the foremen of the trouble and expense of breaking in new help. It is supposed to do the work more quickly and more thoroughly than the foremen have time to accomplish. Its second function is to pass on the vocational aptitudes of the new employe. In a plant with so many different classes of work, it is impracticable to predetermine the exact aptitudes that the applicants for the work may have. Psychological tests may do this in the future, but for the present actual experience at the job is the only safe guide.

The employment department follows up the new employe during the first three months. If he is succeeding on the job, his wages will be advanced at an opportune time. Advances in wages are recommended in writing by department heads after each monthly examination of their pay roll. The productive records of the employe are referred to when such recommendations are made.

These recommendations are sent to the employment department and are checked against the records of each employe which are on file there. In addition to the name, age, rate of wages, and length of service of the employe, this record shows the number of suggestions and the number of errors made by him.

Usually the pay recommendations are approved by the employment department and sent to the works manager for final approval. If a recommendation is questioned by the employment department, however, the reasons for not approving it are given to the works manager, who will not approve the recommendation unless some additional reasons for approving it are given by the department head.

If an employee has not succeeded in the position in which he was placed, the employment department then takes up the matter of moving him to another department or of dismissing him entirely from the service. Complete information about an employee's shortcomings is obtained from the department head. Based on this information and upon an interview with the employee, a decision with respect to disposing of the employee is made.

The matter of transferring employees from one department to another required very careful study when the employment department was organized. Department heads in the past had passed on to one another many incompetent employees, and most of them looked with suspicion upon any new move to give employees a second trial at another job.

The policy of transferring employees from one department to another to promote them as well as to give another chance to the promising employees who failed to "make good" on their first jobs, however, has changed the attitude of the department heads toward transferred employees, and the company now saves many employees to its service who would otherwise be lost. The reasons for transferring 219 employees in 1915 were: Advancing employees to better positions in other departments, 40 per cent. changing employees who asked to be placed on another line of work, 4 per cent.; changing employees who were not adapted to the first job in which they were placed, 18 per cent.; changing employees to other work when seasonal work for which they were engaged was finished, 29 per cent.; changing employees to other positions for miscellaneous reasons, 9 per cent.

Transfers of labor are recorded in the employment department only when an employee is taken from one department and placed in another under the supervision of a different department head. Employees may be advanced from one position to another in the same department without that fact being recorded in the employment department, or they may be changed from one kind of work to another within the same department. If this change is occasioned by the fact that the employee has not made progress on the first job, the employment department is notified.

The Dennison Company has made a careful study of how to regulate the manufacture of seasonal goods. It has persuaded its customers to place orders very early in the year for holiday goods. It now makes large runs of staple articles at periods of

the year in which many of its facilities were formerly idle. It has developed an extensive line of specialties for St. Valentine's Day; St. Patrick's Day; Easter and patriotic holidays which come during the first part of the year, and for which it employs the same machinery as was formerly used only for Christmas specialties. By dovetailing these activities it has kept its trained hands steadily employed, and has greatly reduced labor turnover and labor costs.

When an employee decides to leave the company, notice of this decision is usually given a week in advance. The employment manager interviews the employee and records the reason on a printed "Leaving Slip." An effort is always made to get the true reason. Instances where an employee is dissatisfied either with his wages, his work, or the conditions under which his work is performed are of especial concern to the employment department. If any employee has suffered an injustice, steps are taken to prevent a repetition of the complaint. Because the employment department has been interested to record the reason given by each departing employee for leaving its service, and to tabulate this information at intervals, it has been able to discover a number of common causes of dissatisfaction which resulted in large numbers of employees leaving.

This information resulted in remedial recommendations being made which, when adopted, almost immediately resulted in stopping the exodus of dissatisfied employees. The number of employees lost by this industry in 1913, because they were dissatisfied for one reason or another, probably was no greater than the number lost for similar reasons by other industries, because the average labor turnover of this industry was no worse than the average labor turnover of other industries in its class. However, by reason of the steps taken by the company to remove causes that tended to make employees dissatisfied, it was able to reduce these cases to such an extent that the total number recorded in 1915 represents only 17½ per cent. of the total number who left in 1913 because they were dissatisfied either with their wage or their work. This appears to be a remarkable showing when it is remembered that there are always in every industry types of restive employees, small in numbers to be sure, who seem to be dissatisfied with any job, no matter how advantageous appears the opportunity for advancement it offers or how fair its wage may be.

APPENDIX IV

THE RELATION OF HOME CONDITIONS TO INDUSTRIAL EFFICIENCY *

By M. B. GILSON

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For some time various agencies which aim toward the betterment of society have realized that no lasting results can be secured without the cooperation of the home. The school, the church, the hospital, organized charity, and in fact all organizations which assume it is their responsibility to help those with whom they come in contact are faced by many problems which cannot be solved without a knowledge of home conditions. Of late years industry, too, in looking more deeply into the causes of ill health and dissatisfaction among workers has discovered that the removal of these causes cannot take place within the four walls of the factory alone. Many firms to-day avowedly profess to do all in their power to maintain the health of their employes and to further their training and education. The greater advance an organization makes in this direction, the more intelligently it solves its problems connected with the human element, by so much does it recognize the close relationship of the home to the job.

The fact that there are armies of young workers entering the industrial field complicates the question. To say that young men and women do not need friendly aid and advice as to their personal problems is to confess ignorance. And it is obvious that many of these personal problems are vitally connected with home conditions. When the home and the school turn out young people trained in responsibility and with character and habits which fortify them for life and its difficulties, and when the state does more than it now does toward training in citizenship and toward

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offering healthy recreation to its family, perhaps this burden will not fall so heavily upon industry. But at the present stage of sociological development industry must cooperate with all other agencies, and, most of all, with the home, in training and educating and developing its young workers if it wishes to maintain health and prosperity among them.

The physical conditions of a factory may be up to the highest standard of the times; sanitation and ventilation may be as nearly perfect as possible; rest-rooms, lunch-rooms, recreational facilities, shower-baths and other comforts and luxuries may be provided by an employer whose aim is to make the working conditions of his people as pleasant as possible. Hours may be reasonably short, wages may be high, a system removing friction and worry in connection with the work itself may have been installed. And yet, the employer who is intelligently attempting to reduce his labor turnover and to improve the personnel of his organization knows that these things alone, while essential, will not suffice. He recognizes that the health and well being of his people are fully as dependent upon the conditions which confront them outside of the factory as upon those existing within. He recognizes, too, that these conditions outside of their work constitute fully as important factors in their steadiness and efficiency as any working conditions he may provide.

As for the "right" of the factory management to interest itself in the lives of workers outside of the factory, it is not only a "right" when it affects the worker in his work, but it is a duty which is a natural outgrowth of executive responsibility. The progressive manager knows full well the value of hygienic factory conditions for his workers, but of what avail is it to provide healthful working conditions from seven in the morning until five in the evening if these same workers are to live in unhealthy surroundings and under improper influences from five at night until seven in the morning? Interest in the hygiene of the worker cannot be truly effective, therefore, unless it attaches itself to the worker at all times. It is all very well to use such trite expressions as "paternalism" and "benevolent despotism" and other hackneyed phrases in connection with this subject, but actual experience confirms us in our belief that people are not "grown ups" merely because they are termed so. Unfortunately most people are as ignorant of the laws of health as babes in arms. It is

all very ideal to say that we should manage our own lives. No one denies that this is an ultimate goal toward which every intelligent agency for the betterment of mankind should be constantly aiming, but in the meantime it is hardly practical to expect a perfect democracy to spring into being full fledged. In other words, before we can manage our own affairs we must be taught how. For example, when we consider the numbers of foreign people who are working in our American industrial establishments, it is absurd to talk about thrusting them into wholly new surroundings and difficulties without any friendly advice and instruction from those who have a thorough acquaintanceship with these surroundings. The modern tendency is to try to avoid the mistakes of others. It is unscientific to proceed by "the rule of thumb"; in other words, science and knowledge are to proceed from where the other fellow left off in order to eliminate the constant waste and duplication of past achievement. Now, cannot this be carried into the field of modern hygiene? Would it not be inexcusable to "let people work out their own salvation" if by so doing their health and the health of the race is affected? If, for example, an employer wishes to know why a worker has constant headaches and is therefore unfitted for his work, and if he has done everything that can be done inside the factory to discover the cause, who can question his right to go into the home of the worker in the effort to learn facts which will make it possible for him to eradicate the headaches and to retain the worker? People who shrug their shoulders and say this is "impertinent interference" would prefer, possibly, to let the headaches go on until the worker became so inefficient that discharge would inevitably follow. The intelligent employer, however, does not follow this *laissez faire* policy. He knows that by reducing the causes of inefficiency he is helping to make better workers and better citizens and a more stable and steadily prosperous body of employes, and he considers it his duty to use every honest means to attain such a desirable end.

We hear a great deal to-day about "occupational diseases," about employers being responsible for the lack of security and continuity of employment, about the unfitting of women for motherhood because of industry's demands and about the lack of opportunity to rise in the industrial world. These charges, however, cannot be laid at the door of industry itself, but of in-

dustrial administration. Industry, badly regulated, gives justification to such charges, but industry properly regulated will produce quite opposite results. In any case, intelligent employers welcome the opportunity to join with statisticians and investigators in an effort to seek the truth, and if the truth cannot be found within the factory walls, it is their duty to get it outside.

Society justly holds industry responsible for certain results; employers, therefore, must not only be permitted, but must be encouraged to use their fullest intelligence in attaining these results. Furthermore, it is society's duty to support them in their efforts instead of indulging in the ill-founded, destructive criticism which has become the fashion, especially among inexperienced theorists and academicians.

The fundamental factors of home influence are physical, mental and moral. It is obvious that as far as the physical conditions of the home are concerned they have a vital connection with the health of the worker. A man who sleeps with his windows closed and who lives in unsanitary surroundings will naturally suffer in due course of time. We have found when making home visits, people sleeping in small bedrooms with the windows tightly closed and gas stoves burning. Sometimes bedrooms are badly overcrowded in order to keep intact the "parlor" and dining-room. The case of two girls who were suffering from constant headaches may be instanced, who when visited at home were found to be living in the attic of a new frame house. Their father, mother, three boys and two girls were crowded in this small attic with no privacy whatever, and with the windows tightly corked and a large gas stove without a flue. The father had recently bought the house and was renting to some families the first and second floors as well as a small house in the rear where he had formerly lived. He had stopped working and was having a beautiful time on his rent money and the pay envelopes of his two daughters. He was finally persuaded to move his family downstairs, and the effect on their health and attitude of mind was almost immediate. Numerous cases could be cited of people who are anemic and pale during the winter months and who immediately begin to take on color and show more vigor when summer comes. It is hard to convince such people that winter air in their bedrooms is not deadly. Many foreigners do not realize that what kept them alive in the old country was prob-

ably the fact that they were engaged in field work through the day and that a close bedroom did not therefore work havoc as it does to indoor workers. In cases where employes complain that they are not feeling well and the work does not agree with them, it is generally found that living conditions are in reality responsible. When these have been remedied, their attitude toward their work invariably changes.

In Cleveland most of the modern houses for working people are single or two family houses with a fair amount of ground. The majority of the newer houses have bath-rooms, the acquiring of which is as yet a matter of conscious pride. Bath-rooms, in other words, are a matter of style and distinction in the neighborhood. You belong to a little higher stratum of society if you have such a luxury. What's the difference? We all know necessities grow out of luxuries and that "style" has played an important part in raising the standard of living. There is an encouraging tendency on the part of our workers to build their own homes, to have modern plumbing, and to have enough ground for a vegetable garden and flowers. There is probably no large city in the country whose workers' homes show more pride in flowers and lawns than do those of Cleveland. The progressive employer realizes that the more comfortable the homes of his employes are, the better and more desirable workers they make. It is only the most benighted and ignorant man who does not think it is "good business" to hire people who are aiming to provide themselves and their families with pleasant homes. Every encouragement should be offered to the worker who is living in unhealthy, disagreeable surroundings to get into a better environment as soon as possible. People who take pride in their homes are invariably more thrifty, ambitious, and reliable, and it has been our experience that wherever we have been able to induce a man to improve his housing conditions it has resulted in making him not only a steadier and more efficient worker, but also a more self-respecting member of the community.

But responsibility cannot end with an attempt to better the physical condition of the home. The moral and mental atmosphere has, also, an untold influence on the efficiency of the worker. Centuries of tradition, superstition, and wrong thinking have left their imprint on all of us, and in some homes science and reason and logic are eyed with suspicion and only reluctantly

granted a lodging. It is difficult to persuade a woman to have her eyes examined by a competent oculist when her mother and grandmother have convinced her that ear-rings will cure sore eyes. It is hard to root out of some foreign born men the deeply imbedded idea that their wives are beasts of burden. So many points of view come to light, so many warped ideas which have been passed on from generation to generation, and the need for tact and wise dealing and patience is infinite.

Through close contact with the homes of working people one is more and more awakened to the problems which confront women in industry. Constantly we must keep in mind that the girl workers of to-day are the wives and mothers of to-morrow. In an industrial establishment where the health of the people is of first importance, a girl stands a far greater chance of proper physical development than she does in the average home where, as any one acquainted with this problem well knows, the standards and ideas of health are almost medieval. As for the much debated question concerning the influence of industry on motherhood, we must keep in mind that motherhood means not only the physical function of producing offspring, but it means as well the bringing up and training of children. A rightly conducted business, requiring high personal standards and affording training such as is not obtainable elsewhere, not only develops healthier and more competent people, but also develops their character. And, surely character is the *sine qua non* of such an exacting profession as that of motherhood. Let us not be sentimental in the consideration of "women in industry." I know many a girl to-day who will be far more careful in the choice of a husband because she has a good job and because she is facing actual conditions of life than if she did not have the opportunities which modern industry furnishes to women.

But, whether or not we welcome these broadening opportunities, we must not blind ourselves to the accompanying problems which present themselves. Beginning with the young girl, there is the growing independence, the impatience with parental restraint, the cheap amusements which are slowly but surely vitiating her taste and lowering her standards. The question of recreation alone is a far-reaching one indeed. How can a girl develop into a good worker when her parents permit her to frequent cheap dance halls and movies any and every night of the week? Or,

going to the other extreme, how can she work with any spirit and interest if her parents obdurately refuse to permit her to go any place and, though she may be brimming over with life and youth, she is practically a prisoner in her own house? We have had girls who have grown pale and listless and have lost all interest in their work because their parents would not permit them to invite any of their friends to their homes nor would they let them out of their sight in the evenings. The intelligent manager realizes keenly the wisdom of interesting the families of his workers in this problem of sane and natural recreation. He knows that the dissipated person is not a good earner nor a satisfied, happy worker, and that men and women who are interested in good books and good music and healthy, wholesome forms of amusement are those who qualify for advancement and therefore belong in the ranks of the "desirable." And he also knows that preaching to people to be good will not keep them from spending their idle time unprofitably. There is probably nothing the state could do which would accrue more to the benefit of working people than to furnish profitable recreational facilities to them. It is insufficient to pass laws which shorten working hours without proper provision for safeguarding the additional hours of recreation which result. Enlightened management recognizes that these additional hours may be devoted to uses which destroy instead of build up. For this reason it realizes its responsibility, not only to furnish wholesome recreation which develops both body and mind, but sees here another reason for the cooperation of the home.

In connection with the question of women in industry, we must consider the woman with "two jobs." Women are generally called on to stay at home when there is any sickness in the family. The idea of paying a competent neighbor or calling on the Visiting Nurses' Association instead of staying away from work to take care of a sick relative is of slow growth. There is need of much education in the home on this very subject of irregularity of attendance. It is not enough to have a worker impressed with a sense of responsibility. The worker's family also must have the right attitude toward this question. Home visits frequently disclose the fact that women who work all day in the factory also cook and scrub and wash at home in the evenings. A case of this sort was revealed a couple of years ago when

we were canvassing the shop to see who needed to join the classes in English for foreigners. Peter R., a Hungarian who had come to America ten years ago and had become fairly proficient in English, demurred when he was told that we wished his wife, who had come over years later, to go to school and learn English from 4:30 to 5:30 twice a week. Said Peter, "But who'll get my supper on Tuesdays and Thursdays if she stays at the factory to learn English?" When we told him Barbara worked all day long in the factory and worked just as hard as he did, and that it would not hurt him in the least to cook the supper two days in the week, his dignity was obviously injured. It was only after much argument that we convinced him cooking was not Barbara's sacred and divine duty since he had permitted her to take upon herself the responsibility of a factory job. He finally agreed to cook his own supper Tuesdays and Thursdays and to-day Barbara speaks English and Peter knows what it means to have two jobs. Whenever circumstances warrant, we refuse to keep in our employ married women. They are, as a rule, irregular in attendance and burdened with household duties, and we often find their husbands are depending on them for support. This unwritten law, we have found, has materially lessened the early, precipitate marriages in our factory. Girls of 18 used to say, "I want off next Friday to get married. I'll be back Monday," but now we often hear, "Well, I'm not going to marry him until I know him better" or "You bet I won't work after I'm married. A girl has enough to do to keep house."

The idea that it is wiser for a girl to have a bank account than to marry without a penny and buy everything on the installment plan is also gaining headway. This matter of the bank account is one of the most vital occasions for home visits. It is often found that a girl's earnings are low because she has no incentive to make money. In an astonishing number of cases a worker passes over an unopened pay envelope to her mother even when no financial necessity for this exists. When a mother is visited and urged to allow her daughter to deposit in our penny bank all over a certain sum or a certain percentage of her earnings each pay day, it is surprising how quickly the girl's earning power increases. Many parents consider a child merely a financial asset, and it is hard to convince them that they are removing all incentive from him by requiring him to turn over his unopened pay envelope.

In some cases parents say, "No, my son shall never pay board. That would make him too independent. He must give me his pay." Besides removing the incentive to earn, this attitude on the part of parents encourages early and ill-considered marriage as the only means of securing financial independence.

But if home visiting discloses the necessity of urging parents to permit their children to save, it also reveals the value of training in spending. Unfortunately the question of foreign parentage brings its difficulties in this matter. A girl coaxes and whines and makes life miserable for her mother until she is permitted to buy a white willow plume. If the mother protests, she is told that she does not know how girls in America dress and she reluctantly yields to this argument. A mother complained to us recently that her daughter was so addicted to the fancy shoe craze that she had thirteen pairs of shoes in her wardrobe and wanted money out of her last pay to buy another pair. This mother had never allowed her daughter to have a stipulated sum of money for clothes, and some time after we persuaded her to do this in order that the girl might have some experience in proportionate expenditure, she told us that "Jennie soon found she had to spend her money for some other things besides shoes." When it is possible to convince parents of the wisdom of letting their girls and boys learn how to spend, the results speak for themselves.

Sometimes home visits are necessary for the sake of securing cooperation on the subject of simplicity of dress. It is no longer a debatable question that elaborate clothes and jewelry and powder and paint have a demoralizing effect on the character and ability of a working girl. One mother said, "My other daughter works down at K's, and she says the girls look something swell when they go to work, velvet skirts, pearl ear-rings, just as dolled up as if they was going to a party. I think that's nice for them girls." Some parents, on the other hand, are very responsible and co-operative in encouraging neatness and cleanliness and simplicity of dress. Sometimes radical measures have to be taken to bring about higher standards of cleanliness. Occasionally a very clean girl will come from a very dirty home, but generally when a girl is careless about her appearance the cause of the trouble can be located at home. In connection with this it may be mentioned

that the influence of a sanitary, well kept, orderly factory on the home is immeasurable.

It is self-evident that the problems which come up in connection with home visits are of infinite variety. The influence of quack doctors, of the idea that patent medicines are panaceas, the ignorance of food and diet (about which a separate chapter could be written!) and of the simple rules of hygiene, the curse of modern funerals and their attendant expense, all these and more confront the home visitor. Sometimes old wives' remedies present ludicrous situations. A good example of this is illustrated by the following: The factory nurse visited a girl who had sore throat and found she had wrapped a red herring around it and had drunk some kerosene. A mother was informed that her daughter was in danger of injuring her eyes by doing fine embroidery for her trousseau until late every night. During the conversation the nurse said, "You know her eyes are not very strong. She wears glasses." "Oh," replied the mother, "she don't wear glasses for her eyes. She wears 'em for her stummick." If any service worker in a factory expects to find an intelligent conception of the human body and its needs in the average home, and if she thinks she can bring about a revolutionary change in ideas by home visiting, she will be disappointed. But the evolutionary change is evident to the close observer, and the growing confidence and cooperation and willingness to listen to another viewpoint become more and more noticeable as time passes.

Sometimes very intimate problems present themselves for solution. A girl whose environment is hopelessly bad may have to be advised to leave home and live with decent people. Sometimes a father has to be summoned before a municipal court and warned or sentenced. Frequently men must be forced to go to work when they are lazily falling back on the women of the family. Occasionally a drunken father must be taken in hand and a timid girl instructed in detail how to assume a healthy degree of self-assertion. A case in point is that of Rosie T., whose father celebrated the receipt of his pay envelope every Saturday evening by beating her mother. Rosie was naturally much worried over this, and once in the intimacy of a chat in her home she said she was at a loss to know what to do. The idea of filing an objection with her father personally seemed to require too much courage. "Talk to him!" she said scornfully. "You can't talk to

him. He's too bull-headed." Her mother was advised to get the father's pay herself, and Rosie was told to tell her father when he objected to interference with his customary amusement that "American men do not beat their wives" and, in short, boldly to face him and "stand up" to him. The following Monday morning Rosie came in to the Service Department with beaming face. "Oh!" she exclaimed, "It worked fine. My pap came home awful mad and sez 'Who's got my pay envelope?' An' I sez 'We have, and he started to hit my mother and I sez 'Here's where you get off! No woman in America has to take a lickin' off no man.' An' you ought to seen him how suprised he was to see us standin' up for ourselves." After that Rosie said, "Somehow I don't know what it is to feel afraid any more. I can talk up for myself now and he knows if he don't behave we won't stand for it. I feel bold now!"

It is no less necessary to get the "home folks" to understand the shop methods and system of work than it is to attempt to bring about an intelligent viewpoint in relation to health, and a higher standard of living. Slipshod methods in many establishments account for much of the lack of responsibility of workers toward their jobs. Men who have worked in places where frequent absences were taken for granted occasionally resent any strictness on the part of the organization which demands regular attendance, but a visit to the home and a frank discussion with the wife or mother of the necessity of "being steady on the job" will generally bring about an honest attempt to help Jack or Jim to be more prompt and regular. Moreover, patience and tact must be exercised in educating the home people to an understanding of modern progressive business methods and the reasons for them. A woman who is acquainted with the fact that an organization has just enough workers to turn out its work and that every division is responsible for feeding another division will be much more likely to pay a neighbor or relative to take care of her when she is sick than to ask her husband or daughter to stay at home. The following letter from a mother of one of our girls shows an understanding of "standards" and "averages" which could not have been obtained except through an intelligent interest of the home in the shop:

DEAR MADAM :—

I thought I would drop you a few lines letting you know my girl comes home from work all disgusted she worries because she dont turn out her standard she allways says Ma it dont agree for two chums to work side by side and thats Anna and me I always tell her that she dont make as much as she used to and she sayes she could make more if she would try but that Anna and her talk too much She says lots of times she dont feel like talking but An asks her one question and then they keep it up. When Anna is on the other machine for a half day Susie makes good when she comes back again they talk and then that brings down Susie's average. Susie didn't want to tell you about this but she always complains at home that she dont like to work aside of her chum they have to much to talk about. I like Anna very well but she believes in talking to much. Miss G. don't you think I was right of letting you know of this?

Yours respectfully,

Mrs. R.

It is this kind of understanding and cooperation which home visiting is an important factor in securing, and the degree to which they exist often determines the steadiness and reliability of the worker. Moreover, every intelligent manager knows how much attitude of mind has to do with an employe's success. A person who hears constant criticism of his place of work and meets with scornful disapprobation of shop discipline and system at home is not likely to be in a frame of mind which induces honest effort. The subtle influence of the home atmosphere cannot indeed be measured, but it may safely be argued that no other factor except possibly the work itself so deeply affects the efficiency of the worker.

The occasions for home visits are many, and may be made innumerable. The families of new workers should be visited as soon as possible, primarily for the sake of friendly contact. Cases of sickness and discipline obviously need to be followed into the home. An investigator recently seemed surprised at the lack of resentment toward our "intrusion" into the homes of our people. She was invited to accompany a member of the ser-

vice department one morning when fifteen visits were made (an automobile expedited home visiting for the department), and she was frankly astonished at the welcome which was given the visitor in every instance. Home visiting has become such a matter of fact among our employes that no one questions the honesty of motives prompting it. A number of years of experience have proved that the Clothcraft Shop employes at least not only do not consider it "impertinent," but that they welcome the interest which home visiting signifies. In fact parents frequently come to us to ask our help in solving problems at home. There must be absolute frankness of approach and treatment, however, in every case, as nothing could more injure the work of a service department than insincerity.

The "handling of labor" which means reducing people to automatons is one thing, and that which means a deep understanding of the psychology of human nature and of the intricate and devious methods by which people are inspired to become better workers and better citizens is a vastly different thing. And any one who approaches the subject of this newer and more intelligent kind of handling or rather guiding of human beings will confess himself baffled without both a thorough understanding of home conditions and the cooperation of the home. Finally, in this as well as in all other phases of factory service work, the underlying purpose must be a genuine desire to further the advancement of workers by education and cooperative training, and the service worker must ever have vision born of the words of Marcus Aurelius, "Men exist for the sake of one another; teach them, then, or bear with them."

APPENDIX V

TRAINING COURSE OF THE AMERICAN STEEL &
WIRE COMPANY IN METHODS OF
PRODUCTION *

By C. R. STURDEVANT
Educational Director †

The training course work which the American Steel and Wire Company has been conducting for the past four years possesses certain unique and commendable features. It has been developed into an intensive and practical course of six and one-half weeks, suitable for regular salaried employees from all departments though especially organized for veteran salesmen. It is not intended for new men. The course covers a thorough study of materials and processes involved in the manufacture of all varied wire products of the company.

The employees taking the course are formed into successive classes of about twelve men to the class. Each department head selects from his active force the number of men apportioned him for any class, and he gives them about three weeks notice of this appointment. Those particular men are selected who can best be spared from their work at that time and whose home conditions will permit of their being away for the required period. At the time of appointment the men are advised to acquaint themselves with certain prescribed reading matter both to better prepare themselves for the work and also to form the habit of study. After the completion of the course, the men return to their respective positions.

The work consists of mill inspection trips in the forenoons under competent guides, lectures, discussions and thorough quizzes in the afternoons, and a study each evening of a specially prepared lesson for the work of the following day. The whole course has been arranged into well-defined "packages"—one for each day, complete in itself and bearing an orderly relation to all

* For a detailed account of this course, see *The National Association of Corporation Schools Bulletin*, Vol. II, June, 1915, pp. 31-34.

† Mr. Sturdevant is a member of the Committee on Vocational Guidance of The National Association of Corporation Schools.

others. For example, the first day's work consists of a laboratory study of chemistry as related to iron and steel making; the second day's work is concerned wholly with the conversion of iron ore into pig iron; the third, with the conversion of pig iron into bessemer steel; then one day is devoted to the study of the open hearth process, and one to the hot rolling mill where the ingot is converted into wire rods. In similar manner, a whole week is given to the study of all essential wire drawing processes. A full set of booklets has been prepared for this course, one for each day's work.

The classes spend three weeks in the Cleveland District, one in the Pittsburgh District, and the balance of the time in the Worcester District. This plan affords them an opportunity to study all distinctive processes involved in the making of the Company's products. Thus far twenty-seven classes have completed the course.

A written examination is held on each Saturday morning covering the work of the week. Later, the examination is carefully reviewed, all errors are pointed out, and the men are advised of their gradings. At the end of the course a fairly complete report of each student, including statements regarding his conduct and efforts, is made out for the company officials. No greater stimulus is needed to incite the men to their very best effort to secure favorable ratings and reports.

The training course teaches the men much concerning their own work, and their efficiency is correspondingly increased. This constitutes an immediate return well worth the cost. Their minds become enlarged and more active, their visions broadened, their imaginations are quickened, and their powers of perception, observation, and expression are likewise developed. During the course they touch upon many subjects that are new and of special interest. Many of the men are stimulated and encouraged to follow up these new lines when they return home. The men acquire a fuller and much more accurate conception of the work the Company is doing, and of its general policies and ideals, and they feel under obligation to the Company for having offered them such an exceptional opportunity to add to their previous knowledge. They become more loyal and more ambitious to improve their records and to advance. The course tends to promote better inter-department teamwork, and it greatly strengthens the working organization.

APPENDIX VI

TRAINING TECHNICAL GRADUATES AT THE WEST-
INGHOUSE ELECTRIC & MANUFACTURING
COMPANY *

By C. R. DOOLEY

Secretary Education Committee †

I. SELECTION

Special native ability, personality, temperament, ambition, special education, geographical location, number of men desired for each branch of the Company's work, are checked up carefully in making each appointment.

Special representatives from the Educational Department visit the important technical colleges each year and interview personally each member of the senior classes in Electrical and Mechanical Engineering who is sufficiently interested. Appointment is based upon the result of the interview, the desire of the student, and the recommendations of the professors. The interview record makes note of activities, both in and out of school, dating back to High School days or earlier.

The result is a limited number of carefully examined, purposeful men as compared to a much larger number of miscellaneous types and for the most part of indefinite ambitions.

2. OBJECT

Absolute devotion to the ideal of getting the right man on the right job is the constant aim of the Educational Department. This is not only humanly fair to the men, but necessary to the highest efficiency of the Company as an organized unit.

This obtained, the next step is to give each man such specialized training as the circumstances in each case demand.

* East Pittsburgh.

† Mr. Dooley is a member of the Executive Committee of The National Association of Corporation Schools.

3. METHOD

To accomplish this each man is placed on a schedule of Manufacturing Department work and Educational Department class supervision, in order to bring him into personal contact with the following influences:

- a. General industrial atmosphere.
- b. Variety of types of our product.
- c. Variety of types of older men, each an expert in some line.
- d. Variety of types of fellow students.
- e. Advice of Educational Department, men devoting their entire time to the study of men.

A complete record of performance of each man is kept under a number of different characteristic headings. In the course of the year each student will have some fifty to one hundred different marks covering different personal characteristics and made under different circumstances by different division heads and class leaders employing his service. Each man must choose his ultimate place, and the Company must approve his choice.

The final result is therefore based upon the old simple try-out method—so highly supervised that no performance is lost sight of and the error of judgment of a single observer is ironed out.

The last two or three months of the year are given over to special training including experience in the department toward which each man is headed and an increased amount of class-room work.

APPENDIX VII

THE EMPLOYMENT FUNCTION IN MANAGEMENT

(Tentative Outline of Course to be Given in the Amos Tuck School of Administration and Finance, Dartmouth College) *

- I. The functionalized employment executive.
His functions.
- II. The functionalized employment executive.
The administrative and executive problems which make him necessary.
- III. Organization of the employment executive's department and its relations to other departments.
 1. As to selection.
 2. As to training.
 3. As to general supervision.
 4. As to records.
 5. As to relation to other departments.
- IV. Selection.
 1. Sources of supply.
 2. Methods of selection.
- V. Analysis of processes and classifications of "jobs."
 1. As to selection.
 2. As to training.
 3. As to promotion.
- VI. Training.
 1. Organization.
 - a. Within plant.
 - b. Cooperation with educational institutions.

* For the above outline the Association is indebted to Professor H. S. Person, of the Amos Tuck School, through the good offices of Mr. A. C. Vinal, of the Committee on Vocational Guidance of The National Association of Corporation Schools.

2. Purpose.
 - a. General.
 - b. Specific operations.
- VII. General supervision.
 1. Relation of employes to foremen and minor executives.
 2. Promotion, transfer, and discharge.
- VIII. Working conditions.
 1. Equipment.
 2. Health.
 3. Conveniences.
 4. Pleasure.
- IX. Relations to the community.
 1. Housing.
 2. Educational institutions and facilities.
 3. Pleasure.
 4. The problem of paternalism.
- X. Employes' cooperative associations.
 1. Mutual benefit.
 2. Insurance.
 3. Banks.
 4. Stores.
 5. Other.
- XI. Records of employes.
 1. Applicants.
 2. Attendance.
 3. Efficiency.
 4. Discharge.
 5. Other.
- XII. Administrative problems relating to personnel.
 1. Wage system and profit-sharing.
 2. Organized labor.
 3. Participation of employes in management.
 4. Consent.
 5. Industrial democracy.

APPENDIX VIII

THE HUMAN INTERPRETATION OF INDUSTRY

By PROFESSOR H. C. METCALF

(Course Given in the Series of the Commission on Extension Courses, Boston, 1915-16)

SYNOPSIS OF SUBJECTS TREATED

Growth of interest in the human factor in work.
 The organic unity of man; life needs, interests, and motives.
 Occupational classification.
 Significance of consumption.
 Production and the individual.
 Value and the forces behind it.
 Entrepreneurship and capitalistic industry.
 Labor as a factor in production and its human cost.
 Human problems in large-scale management.
 The distribution of wealth and the place of business profits therein.
 Some practical aspects of the wages question.
 Income: service income and property income and their recipients.
 Employers' welfare work.
 Industrial health.
 Diseases of occupation.
 Industrial accidents and safety.
 Unemployment.
 Social insurance.
 Profit-sharing and labor copartnership.
 Scientific management and human relations.

APPENDIX IX

SUGGESTED TRAINING COURSE FOR SHIPYARD
FOREMEN, LEADING MEN, AND THOSE
RESPONSIBLE FOR THE PROTEC-
TION OF OTHERS

By H. C. METCALF

A considerable number of responsible heads occupy positions as department foremen, general foremen, leading men, etc. All of these men have a number of duties quite similar in important respects. All are responsible for the handling and control over men; all are responsible for handling raw material or partly finished products; they have more or less supervisory power; they are responsible for equipment, routing, etc. These important phases of shipbuilding all the responsible heads could study with much profit to themselves and to the company for which they work. There is herewith submitted a suggestive outline for such a course:

I. *Fundamentals of Business Organization and Management.*

1. Brief development of modern industry; special emphasis on history of shipbuilding here and abroad.
2. Leading principles of modern economics.
3. Careful study of own organization, its ideals, its growth and development, the inter-relation of the various departments, relation to other industries (iron, steel, wood, etc.), its relation to the public.
4. The problems of management growing out of large-scale organization.
5. The fundamental requirements and the psychology of handling men. Best means of selecting, training, encouraging, promoting, rewarding and protecting men; best forms and best tests of genuine welfare work.

II. *Shipbuilding and Construction.*

Here should enter the more technical part of the course which would give the men a first-hand knowledge of the preliminary preparations of all raw materials coming from other places to be used in the departments—iron, steels, electrical apparatus, rods, etc. This would call for inspection trips to other plants.

1. Study of materials used in the plant.
2. Study of processes involved in making the parts.
3. Study of all finished parts.

This part of the course would in particular demand a thorough study of all the processes and departmental work in the industry. This is absolutely necessary if the responsible men are to know the relation of their work to that of other departments.

In such a training course the men would become familiar with many problems and conditions essential to a proper understanding of the problems of accidents, sickness, irregular employment, possibilities of transfer, promotion, etc. It could not help but continually broaden the men and make them more efficient.

The material for this part of the course can readily be brought together by those within individual plants. It has been done by several large concerns in the country in other lines of work and is most effective.

III. *General Equipment and Power.*

1. Engineering.

All foremen in the Ship Yards should know something of the fundamentals of energy, power, force, work, power generation, transmission losses, shafting, belting, belt testing, the electric motor, wiring-apparatus, etc.

2. Building.

All should be carefully trained in the relation of lighting, ventilation, sanitation, cleanliness, water supply, and all those environmental conditions that affect the efficiency of labor. The average foreman is not efficiently trained in the handling of materials, in the knowledge of stock and its distribution, and above all, he is not efficient in the economic routing of materials.

3. Machinery and Tools.

Here enter the scientific preparation and care of machines, materials and tools, job analysis, motion study, preparedness, knowl-

edge of the principal machines, careful study of safety devices, efficiency studies (so necessary in the promotion of men), saving of power, light, and heat, upkeep of machines, etc.

The men selected for such class work would be obliged to train men to assume their responsibilities while in class work. These men could meet once or twice a week with an instructor in hourly session. The work could be handled in such a flexible manner as not to interfere with production. It need not be confined to any fixed time limit, but should continue as long as profitable.

The class work would consist of lectures by those specially qualified to give them, freedom of discussion, assigned tasks in helpful readings, reports on observations in the firms and elsewhere, demonstrations, quizzes, etc.

Such a course would gradually aid materially in building up a good works library for the firms giving such a course—a much needed asset.

The cost of such a course per man would be very slight compared with the gains. The instructors could be found among the operating force, and, with slight outside assistance, could readily develop and handle such a course as here outlined.

Aside from the direct helpful knowledge gained, such a course would lead the men to think, plan, reason, and act for themselves. They would have a broadened interest, a new zeal, and their enthusiasm would spread throughout the rank and file. Better trained in *job* fitness, they would become the nucleus of a far more efficient organization, because better trained in *organisation* fitness.

One of the greatest assets of such a course would be the co-operation, the fellowship, the loyalty that would result. It would create in the minds of the men a new spirit and a new vision.

APPENDIX X

CONSTITUTION AND BY-LAWS OF THE WELFARE
ASSOCIATION OF THE UNITED STATES
CARTRIDGE COMPANY *

CONSTITUTION

ARTICLE I.

NAME

This Organization shall be called the Welfare Association of the United States Cartridge Company.

ARTICLE II

OBJECT

Its object will be to promote harmony and cooperation among the employees of the United States Cartridge Company.

ARTICLE III

MEMBERS

The members shall consist of all employees of the United States Cartridge Company.

ARTICLE IV

GOVERNMENT

The control of the affairs of the Welfare Association of the United States Cartridge Company shall be vested in a Welfare Committee consisting of one man and one woman from each department representing each shift. The members of the Welfare Committee shall be elected by the members in their own department and such election shall be for a period of six months from date of election.

At its first regular meeting after election, the Welfare Committee shall elect a President, two Vice-Presidents, Secretary and

* Adopted December 30, 1915. Material furnished by courtesy of the company. Cf. article about this Association in the Company's house organ, *Factory Notes*, Vol. I, No. 1, February, 1916.

Treasurer, and a Council in which shall be vested all the rights of the Association; this Council to consist of six members of the Welfare Committee; and the President, two Vice-Presidents, Secretary and Treasurer shall be members of this Council.

ARTICLE V

OFFICERS

Sec. 1. The officers of this Association shall consist of President, two Vice-Presidents, Secretary, Treasurer, who, together with six other members, shall comprise a Council.

Sec. 2. The President shall hold office six months from date of election; the two Vice-Presidents shall hold office six months from date of election; Secretary and Treasurer to hold office six months from date of election. The term of office for the six remaining members of the Council shall be as follows: Two to serve three months, two to serve six months, and two to serve one year from date of election.

Sec. 3. The President shall be male; one of the Vice-Presidents shall be female; the Secretary and Treasurer shall be optional, and three of the remaining six members of the Council shall be female.

Sec. 4. There shall be a Grievance Committee; a Nominating Committee; a Visiting Committee, and Entertainment Committee, and such other Committees as the needs of the Association require. Each Committee shall be composed of three members.

ARTICLE VI

DUTIES OF OFFICERS

Sec. 1. President. The President of the Association shall perform the duties pertaining to that office. He shall have special watch over the interests of the Association, and shall see that the Committees perform the duties devolving upon them. He shall be chairman of the Council, and an "ex-officio" member of all committees.

Sec. 2. Vice-Presidents. The Vice-Presidents shall assist the President and perform his duties during his absence.

Sec. 3. Secretary. It shall be the duty of the Secretary to keep correct minutes of all meetings of the Association; to notify all persons elected to office. He shall attend to the correspondence

of the Association. The term of office of the Secretary shall be at the discretion of the Council.

Sec. 4. Treasurer. It shall be the duty of the Treasurer to safely keep all funds belonging to the Association, and to pay out only such sums as shall be voted by the Council. When funds in his hands reach \$100, he shall give suitable bond.

ARTICLE VII

DUTIES OF COMMITTEES

Sec. 1. The Council shall conduct the business of the Association and shall appoint all committees. The chairman of committees shall in all instances be a member of the Council. Five shall constitute a quorum.

Sec. 2. The Grievance Committee shall listen to any complaint presented by an employe of the United States Cartridge Company and shall present all such complaints to the Council for the purpose of consideration and adjudication.

Sec. 3. The Nominating Committee shall consist of five members of the Governing Board appointed by the President. They shall present a ticket of officers at least two weeks before the regular election night.

Sec. 4. The Visiting Committee shall stand prepared to visit such members of the Association as are confined because of sickness or accident and shall do all possible to lighten suffering of persons on whom they are calling.

Sec. 5. The Entertainment Committee shall have charge of the social life of the Association and shall prepare programs on such occasions as the Council shall declare social evenings.

Sec. 6. The Nominations of the Nominating Committee shall be posted ten days before date of election. Nominations for any office may be made from floor on election night, by a two-thirds vote of those present. A quorum to consist of fifteen members, and no meeting to be legal unless such a number of duly accredited delegates are present.

ARTICLE VIII

DUTIES OF MEMBERS

Sec. 1. Every member shall be expected to cooperate with the officers and committees of the Association, accepting duties

with willingness and declining no duties except for urgent and valid reasons.

Sec. 2. All are requested to report grievances of employees at once to the Grievance Committee and to report to the Visiting Committee the names of any members who are sick or injured.

ARTICLE IX

BUSINESS MEETING

Sec. 1. Regular business meetings shall be held on the first Thursday evening of each month. Special business meetings may be held at the call of the President or by a petition signed by two-thirds of the members of the Governing Board.

Sec. 2. Election of Officers shall take place every six months.

Sec. 3. The Committees shall be appointed by the Council.

Sec. 4. Any vacancy that shall occur in any office may be filled at any regular business meeting of the Council appointed to hold office until regular election night.

ARTICLE X

AMENDMENTS

Proposed amendments to this Constitution shall be presented in writing and recorded by the Secretary one business meeting previous to action upon them, and when acted upon, two-thirds vote of the members of the Governing Board present and voting thereon, shall be necessary to their adoption.

BY-LAWS

ARTICLE I

MEETINGS

This Association shall hold meetings as indicated by the Council, notice of which shall be posted in convenient places by the Secretary.

ARTICLE II

APPLICATION FOR MEMBERSHIP

There shall be no formal application for membership, but at once a person enters into the employ of the United States Cart-

ridge Company he (she) automatically becomes a member of the Association.

ARTICLE III

The following clause of the By-Laws shall be read to the Association before an election of officers:

While membership in the Council and Committees should be distributed as evenly as the best good of the Association will warrant, among the different members, the offices should not be considered places of honor to be striven for, but simply opportunities for increased usefulness and helpfulness among the co-workers. When, however, a member has been fairly elected, it is expected he will consider his office a sacred trust placed in him by his associates, never to be declined except for most valid reasons. All members should recognize the dignity of the office and refrain from destructive criticism.

ARTICLE IV

QUORUM

Fifteen members shall constitute a quorum of General Committee.

Five members shall constitute a quorum of Council.

ARTICLE V

ORDER OF BUSINESS

1. Call to Order.
2. Reading of Minutes.
3. Report of Treasurer.
4. Report of Committee.
5. Report of Special Committees.
6. Unfinished Business.
7. New Business.
8. Open Forum.
9. Adjournment.

ARTICLE VI

AMENDMENTS

These By-Laws may be amended at any business meeting by a two-thirds vote of the members present, and voting thereon.

APPENDIX XI

PROGRESS OF THE FEDERAL PLAN OF MANAGE-
MENT SHARING OF THE PRINTZ-BIEDERMAN
COMPANY *

"The most important accomplishment, as we regard it, in the human relations in our plant is the opportunity for self-expression that every one in this plant enjoys. Opinion, counsel, suggestion, and criticism are invited and freely extended. The Representative Form of Government, modeled after the Federal Plan, is conducive to that.

"The Legislative Branches are represented by the House of Representatives and Senate, the Executive by the Cabinet, and the Judiciary by the Betterment Committee and Board of Review.

"The first of these bodies is elected by and from the body of workers upon a basis of about one to every fifteen.

"The Senate is in a measure automatically self-appointed, as it consists of foremen, forewomen and superintendents.

"The Cabinet consists of the officers of the Company, while the Betterment Committee is appointed for a period, and the Board of Review for the specific cases and situations with which it has to deal.

"The Legislative Bodies deal with every function and procedure within the plant, which include shop discipline, methods of working, hours of work, earnings and promotions.

"These bodies meet once a week on different days for one hour on the Company's time, and transact the business of the Institution, largely through committees, in an expeditious manner, and according to established parliamentary rules.

"The method is working out satisfactorily to all concerned, a more thorough understanding and a better feeling prevails, and the plan bids fair to prevail. . . .

"So far as the government and methods of our plant are concerned, we shall welcome any inquiries, and extend every facility for investigation to interested parties who may wish to visit the plant, and study these operations at closer range."

* From letter of W. B. Fish, Secretary of the Company, to H. C. Metcalf, March 30, 1916.

PRESIDENT MCLEOD: The discussion on Dr. Metcalf's paper will be led by Dr. Arthur A. Hamerschlag, Director of the Carnegie Institute of Technology.

DR. ARTHUR A. HAMERSCHLAG: Mr. President, Ladies and Gentlemen: I have read with keen interest this report. My impression is that instead of it being a report on vocational guidance, it is much more than that. It is a report upon almost all of the human relations as they are affected by industry. It is impossible for me in the short time which is allotted to me to discuss this paper, in any sense to criticise or suggest additions to so important a document which Dr. Metcalf has so eloquently discussed this morning. But I want to make a contribution or two, which I do not think has been quite fully brought out by the remarks made this morning by Dr. Metcalf concerning the curious change by which the employer has come to the conviction and the belief that he wants corporate schools. I do not want to go back to the time of Moses, but I do want to go back to the old guild period, when the employer found it desirable to take a few apprentices and was concerned with their education. Let us then go to that period when isolated manufacturers of strong personality decided to better the conditions of his employees, and called it welfare work. I want then to go to the next period when under the stress of competition and the desire for bigger dividends certain employers decided to introduce the phrase "efficiency"; then let us go to that period five years ago when we discussed vocational guidance; and now, in making this report on vocational guidance, the whole historical background, all of these movements, are summed up as part of the idealism, part of the future, part of the program of the corporate school movement. It is a wonderful document, this report; wonderful to me, because I have followed up all of these other movements with the greatest of interest.

The one difficulty about putting into effect some of this fundamental idealism which existed with the individual employers, is that we have but few personalities who are to-day in the same relationship to their working staffs as these old-time leaders of the guilds bore to their apprentices, but instead, as it was commanded to Moses that he should do, they delegated their power to a group of assistants, and too often has the corporation refused to recognize its personal, individual obligations, and has

assumed that the law in permitting it to operate as a corporate body gave it freedom from the other human relations which inevitably and always exist, in spite of any interpretation of the law.

In the same way, with the tremendous increase in size of corporations and number of employees, the employee is more or less no longer recognized as a human entity by the man at the top, because these men have not come in contact with the employees, they have been strangers, as individuals, and therefore the employee has been compelled, not by processes of law, but by the natural evolution of magnitudes to organize certain forces and so we have set up in the United States and some of the European countries these two groups, the legal entity of the corporation group, the stockholders who are the employers, and the socialistic or economic organization of employees in the organized groups, and they are still having some difficulty in understanding each other, and I believe that a report like this one, if it could be transmitted to a sufficient number of individuals in both groups, among stockholders and officials, as well as among employees and unions and organizations, would have a most salutary influence in educating them along correct lines.

To my mind, the great big problem which confronts corporate existence and organized labor is the appreciation of an efficient development of an economic democracy for the people. We have had in this country since its birth as a republic a political and religious democracy. We have still to attain an industrial democracy. It is only by an understanding on the part of all the interests involved that we are likely to approach an industrial democracy. Now, in my opinion, it can be brought about more quickly through the actions and reactions which come within and without our educational institutions than through the worker and the employee, whether by argument, or by persuasion, or by kindness, or by strife, as long as they discuss the question—in this way, its solution is going to be brought about more quickly than if pushed to one side and disregarded, and that is where I discern the finest spirit in this report. I believe we must solve these problems instead of putting them to one side. But in the process of the solution of the problem, we must not get away from facts nor from experience.

I am going to touch now on the phrase "vocational guidance,"

which has been the flag under which this Committee has worked. I believe that vocational guidance in this country to-day is on a very unscientific basis. I believe it is a phrase which is much misunderstood, and in the hands of thoughtless people has worked very great harm, indeed, because it has promised much but is compelled to use insufficiently trained agents with which to perform the service. Defective apparatus shipped into a market hurts the market and hurts the manufacturer. The profits quickly disappear. So it is with those groups of individuals who have more or less promised that they can guide children in schools who have not reached the adolescent period, and who, perhaps could take all sorts of material and sift it, without having the sifting agent very materially hurt the cause of the proper study and application of the principles of the scientific guidance of the adult, or of those approaching the adult period, with reference to their natural aptitudes.

I believe that this Committee can very materially assist educational institutions, public and private, by gathering statistical information as to the number of competent vocational guiders that are today effectively in use in the various educational institutions and manufacturing establishments. They will be astounded to learn how small a percentage of these guiders have any scientific background, or any reason for their decisions, and it is because I believe the state of the art of vocational guidance is so crude that I have come here this morning to say to you that I believe we will have the key to the solution of many of these human relation problems only when we have the scientific background, the experience of trained individuals prepared to do that work effectively.

This entire establishment, The Carnegie Institute of Technology, has been struggling patiently, and I think with a reasonable amount of intelligence, to do even slightly and in a small degree what we expect the guidance expert to do for the manufacturer. But we have so little in the way of definite finished results to present that I would hesitate to give even those results publicity. I could only ask you to go through the institution and view its facilities, read its literature, and see how much we emphasize adaptability, see how much we emphasize special qualities or characteristics, and still how few of the individuals whom we have on our staff would be willing to accept as final, as to

whether this student or that student will make good in this or that industrial operation. It is because of the vagueness and inaccuracies, because of the tremendous variables in human individuals, that we have been willing to attack certain of these problems partly in our industrial schools, and now in connection with our Bureau of Psychology, and we have summoned, as we think, the best men who have had experience in that field who are scientific in their methods of attack, so that we might get the real materials with which to instruct and train the type of guidance expert who lies at the base of the beginning of progress in human relations as outlined by this committee.

PRESIDENT MCLEOD: When I approached the platform, I was given several names and requested to call on certain gentlemen before opening the discussion to everyone as they might see fit to respond. One of the names I have is that of Mr. Herbert J. Tily.

MR. HERBERT J. TILY (Strawbridge & Clothier): Mr. President, Ladies and Gentlemen: I am very glad to say a word which may indicate on behalf of the Association the debt of gratitude we owe to Dr. Metcalf for the very intensive study he has made of this very important subject. I am also glad of the opportunity of saying a word as to the significance of the discovery that the term vocational guidance is not a term to be applied only to the guiding of the young boy or the young girl before they enter industry, but is to apply as well to the guidance of men all through industry. That it is not to be used solely for the benefit of the employee, but that the employer himself needs to be guided in the vocation in which he finds himself as a manager.

Those of us who early in life developed that tyrannical mind, termed the scientific mind, which is only an appeal on the part of the mind that our knowledge should be organized, must be thrilled with such a paper as this, which is built up along scientific lines entirely, which takes all the facts which could be obtained in such a journey as was made by Dr. Metcalf and Mr. Vinal, and co-ordinates those facts, straightens them out and rearranges them, and gives us such a complete guide as this is, to furnish us with materials to take back to the large employers of labor with whom we are identified, because there, I believe, rests the work of this institution more largely than in the help which the teachers here may get from each other.

You do not need the help of this organization in getting assistance from each other as to how you shall handle certain special problems, but I believe you need, more than anything else, material to take back to the corporations which you represent which will interest them and arouse them to an appreciation of the significance and importance of the whole movement.

Yesterday some one suggested that there ought to be a standard of entrance into this Association. That seems to indicate a wish to exclude certain people. The whole movement, to my mind, is much more significant than that. We do, of course, wish to help each other in our trade problems, but I believe above it all, and underlying it all, is the determination to arouse industry all over the United States to the significance and importance of educational work in industry, and the recognition of the fact that all industry, like the world itself, exists simply to minister to man's happiness, man's comfort and man's need.

Mr. Collyer came to see me a few days ago. I was about to speak before the Business Man's Club in Philadelphia. I was doubtful as to what line of talk to take up. That organization is based on three cardinal principles—the building of business, the building of self and the building of cities. I was given the topic "Business Building," and due to my talk with Mr. Collyer, and due also to the fact that I had an opportunity of reading this magnificent report of this Committee, I confined my remarks on business building entirely to the development of the human factor in business. Mr. Collyer gave me this text—that business was abreast of science to-day in its handling of machinery, in its handling of methods, in its handling of materials, but it was only just on the threshold and endeavoring to catch up with science in its handling of men.

It is a thrilling thought, a wonderful thought, that the work which we are engaged in, which is the making of a perfect worker, a perfect official, in our industries is after all more than that—it is a work which is akin to that being done by the great educators, the great philosophers, the great thinkers, the great poets, and even by the great artists of the world, because with this human relationship as the background, we get something that calls for the most intense work we can put into our industries, we get that view of our work which will make artists of us all, which will enable us to put into our work the same feeling,

the same energy, the same skill, the same love which a painter, a musician, a sculptor or an architect puts into his work.

We can lose sight of the reward which industry is to get in the shape of profits in the work which it is doing, and we can focus our attention entirely on that artistic product, on the professional product we are turning out, knowing that our profits will eventually come because our work is right.

I wish to add just one word as to what this document also proves, that there lies before this Association work along somewhat more intensive lines, that we should be able to make through the Executive Committee and through men appointed by them and paid by them a more intensive study of everything which pertains to our work. The value of an intensive study of the problem by men who are competent to make that study and reduce the result of their investigations to a scientific demonstration in the way of a printed report, as is shown by the report of this Committee, is beyond computation in its practical worth, and I hope, Mr. Chairman, and ladies and gentlemen, that the work of this Association in the years to come may bring forth many more such history-making documents as is this report of the Committee on Vocational Guidance presented to us this morning.

PRESIDENT McLEOD: The name of the next gentleman on the list is Mr. J. M. Larkin, who is requested to say something on this subject.

MR. J. M. LARKIN (Fore River Shipbuilding Corp.): Mr. Chairman, Ladies and Gentleman: I have hardly had time to get my breath, but I presume we are taking up and discussing now the report of the Committee on Vocational Guidance, and I would like to tell you about a trip that a committee representing the Fore River Shipbuilding Corporation took about two months ago. This committee visited some of the largest and most up-to-date plants in the country with a view to seeing what was being done along the lines of employment, welfare and safety.

The first step that our company took was to call in the services of an expert in investigation work. He came to our works and after a very intensive study of two or three months presented a report to the president of the corporation. This report had in it recommendations for a centralized employment bureau, a better system of education, a better system of caring for the em-

ployees both inside and outside the works, and various other aspects touching on the betterment of the relations between the employer and the employee.

Our president then decided that a committee should be sent out to see what other companies were doing, and thus become educated as to the best methods. This committee was made up of foremen, mechanics, office men and a stenographer, visiting about fifteen companies in the middle west. The first thing they did was to prepare a questionnaire. This questionnaire was prepared to give the information desired on employment, safety and welfare.

Each day after the investigations of the plants the committee made a report to the home company on the trip. Upon the return of the committee to the plant, after about a two weeks' trip, the daily reports were compiled into one general report. A summary and tabular statement together with recommendations for carrying out the work in our own plant were printed in pamphlet form.

This work of preparing the report involved about two weeks' after which the report was presented to the president of the company, and after he had read it over very carefully he decided to send it out to the foremen and to all men in the plant who had anything to do with the hiring or handling of men. He asked them to read the report carefully, and to comment upon it. This they did quite freely. Comments were received from about two hundred and were extremely useful to the company in shaping a definite policy.

Some of the Investigating Committee's recommendations advised the company that they should institute a new employment bureau, that they should provide better shelter for the men, that they revise their medical treatment system, that a pension system should be considered, the housing question should receive careful attention and that they should engage a visiting nurse who would be able to keep in touch with the conditions of the employees in their homes, it suggested a revision in the safety work in the plant, and in fact commented on everything that had a bearing on the human element.

This report when it was received by the men in the works was freely and frankly discussed, and in nearly all cases it was approved. About 167 out of 200 to whom it was sent approved

the report entirely and these expressions coming as they did from the men in the ranks gave the company confidence that they were pursuing the right course.

The employment problem was probably the most important of all those considered and since the committee's return many of these ideas have become policy and have been put into operation. A new employment man has been engaged who has had a mechanical experience. We have also put into effect the rule that no man can leave the plant unless he is first interviewed in the Employment Bureau, and that has been most effective in adjusting and overcoming many petty grievances.

Much can be done to reduce the excessive turn-over which we are all experiencing by the system of transferring by the Employment Department, and we feel very hopeful of the results we will achieve from this feature of the work. There are many instances where it is necessary to lay off help in one department while there exists a need in some other department. We feel that this method of treatment is going to be a big factor in reducing the turn-over of the plant, which has previously been about 200%.

The committee felt that a visiting nurse would be able to do a great amount of good in the homes in helping the wives and families in their household problems as well as being able to adjust any grievances the men might carry home.

Throughout the trip the committee was impressed with the importance all concerns attached to courteous treatment in all branches of the service.

It is coming to be recognized that by far the best results may be attained by getting the confidence of the men. To do this the leaders have got to take a personal interest in them and assure them of an interest in their welfare.

Another point which has a bearing on the reduction of turn-over, and helped in the upbuilding of efficient organizations, was that of promotion from within the company's forces. In most companies visited they followed a hard and fast rule of filling the best positions from their own employees. It was felt that a concern constantly bringing in new men and placing them in positions of responsibility stifle the ambitions and aspirations of older employees and tend to promote a feeling of dissatisfaction.

There is a great deal to be said on this subject and I have

merely touched the high spots. As I said before, I have not prepared any written discussion. I am very enthusiastic over the results that may be accomplished through an observance of vocational guidance principles, and would say in conclusion that I heartily endorse the vocational guidance movement as one which will be of great service to both capital and labor in the solving of its many problems and as one who is in the work, who is applying its principles daily, I believe that it is one of the biggest and most important factors in industrial work to-day.

I wish to take this opportunity to compliment Dr. H. C. Metcalf on the splendid report he has prepared on this work. I think few of us realize the vast amount of time and effort he has given in the collection and compilation of this data. The association and all its members should feel indebted to him for the very valuable service he has rendered. I have had the pleasure of knowing him intimately in his connection on special work along these lines for my company, and appreciate his earnest efforts on behalf of the vocational guidance movement.

PRESIDENT McLEOD: We would like to hear from Miss Kennard on this subject.

MISS B. E. KENNARD (Department Store Education Association): I am afraid I shall have to say "this is so sudden," because I have not even been able to read the report, nor did I hear it. We are very much interested in vocational guidance, especially for women, and I think that there is a problem here in connection with women's work which can be given a great deal of attention. I notice in many cases that where educational work is done in a plant engaging both men and women that there is definite planning usually done for the men for advancement in the line of their work, that this planning includes their vocational guidance also, and there is an appreciation of their varying abilities and the possibilities for development, if they have such possibilities, for higher positions. The work, however, which is done for women in these same plants is often out of the line of the vocational work they are then doing. The organization takes into consideration the other side, the home side of woman's life, that is, her preparation for home-making, and often tries to supplement what she has in that direction, which is usually very small, if she has gone into industry early. She is offered courses in cooking and sewing,

and things of that kind, which ought to be given, and which are very valuable, but the educational directors forget that her earning capacity while she is at work is of prime importance to her, and that her ability to use her faculties to the best advantage in her job is just as important to her as it would be to the man who is engaged in another part of the same system.

I think, therefore, that we ought to give this one suggestion to all men engaged in educational work in large business corporations, that where special ability is shown by these girls it should be given a chance, as in some cases they are able to do excellent work in a line higher than that in which they are engaged when they go to the plant. A woman is much more easily made a machine in her work than a man, because she is more pliable, and she does not have the same spirit of resistance to a more or less military system. She needs encouragement, she needs more stimulus, to get into the line of this educational work.

I think, however, that women show the results of such training just as promptly and just as effectively as men do, and we shall find that it is well worth while to consider, when they are in industry, that they must be considered from the viewpoint of their industrial vocation as well as their home-making vocation. It does not do any good for us to say: "They ought not to be there," or "If I had my way, I would not have any women in these establishments." They are there by force of sheer necessity, for the purpose of making a living, and until business men get together and reorganize business, and reorganize our homes, perhaps, and our social life, in such a way that women will not be there, we must recognize that this is a condition and not a theory.

PRESIDENT MCLEOD: The next one upon whom I am to call is Mr. C. R. Dooley.

MR. C. R. DOOLEY: I think that the report of Dr. Metcalf's Committee is the cornerstone in the ideals of our whole program. The other reports I might class as details, as parts of the day's work, with more of an emphasis on how to carry out certain branches of the whole. In my humble estimation, this report establishes the fundamental ideals of management.

I could almost boil this report down to the golden rule.

What we need now is some way to get this golden rule into the minds of managers. The executive officials in an industrial organization need the training most, and they are the hardest fellows to reach. The curricula, text-books and instructors we talked about yesterday are relatively insignificant compared to establishing this ideal, which is nothing more than the ideal of humanity, in the minds of those in authority. In some way or another, industry has grown to believe that the golden rule is all right on Sunday, but hardly workable on Monday. I am glad to note, however, that there is a growing tendency now among all people to bring their ethics, their religion, their ideals into their business. Business, instead of existing for business alone, is becoming our biggest and best means of expression of life—it is a vehicle for the carrying out of the fullest expression of life, as was stated yesterday, a “life more abundant.” Some of us believe it and theorize about it, but only a few really practice it as yet. Those who have tried the experiment are surprised to find that this very thing makes more money for the business. I am going to believe it is a mark of stupidity not to be able to see that a thorough application of the golden rule is simply coming to mean more dollars and cents for the business. The sooner we can learn that, the sooner we can drive this lesson into the minds of the managers of men, the sooner we will find the right solution for our difficulties.

I do not think there is going to be any one solution which will apply to all cases. We have tried an experiment in one phase of industrial democracy at our plant which has seemingly failed, but I do not think it is the fault of the men. Many things contributed to the failure. We have to start over again, but I can say this for the management—a few days after the plan was discontinued he said to me, “I have not altogether lost confidence in something of this kind being worked out.” In other words, there should be a willingness on the part of managers to continue their search for a way to handle big organizations on a democratic basis and not an autocratic basis.

This is not an Utopian ideal, for even Dr. Metcalf in the preparation of this report, was inspired by that perfectly natural human characteristic—the desire to accomplish—the joy of leadership. He directed this report with some vigor, yet with it

all is closely woven a spirit of co-operation that has brought him suggestions from many a humble source.

He himself is here an example of the necessity of a driving human force to grasp the opportunity for personal expression and to bring about big results, yet those who have worked with him have felt that their co-operation was appreciated. He has fused the human and the economic into the true ideal, which gives both the maximum humanity and the maximum production.

Our big problem is to establish this ideal all down the long line of managers and I wish some one would tell us how to do it—how to educate the Bosses.

DR. W. D. SCOTT: I should like to address my remarks in the beginning to the doubting Thomas—to the man who looks upon this report as idealistic and theoretical, as all right for the professor of economics, but not practicable in industry. Vocational guidance is a practice which I suppose is older than the time of Moses. We have all been giving vocational guidance, and vocational selection has been the essential factor in all industries. The point I want to make is that we are all acting under the influence of some theory or ideal, even though we may never have clearly expressed and formulated it.

Some of you are working upon the theory that all men are created equal, and it does not make much difference, anyway. Others of you are working on the theory that we have round holes and square pegs, and that each individual is particularly adapted for one space and must be gotten to that point. Some are working on the theory that there is a direct correlation between external appearance and capability.

The theories are very diverse, and we all have them. One man selects an employee largely from the appearance of his ears. Some judge applicants by their clothing. Some prefer the homely and some the handsome. Some will accept only those who speak English well, others prefer those who come over in the steerage and cannot speak English. Some prefer the tall and some the short. Some prefer those from homes of industry and thrift, and some prefer those from the tenement districts. Some prefer men who look like some one else who succeeded and avoid those who look like some one they knew who did not make good in that particular kind of a job.

I could go on for a long time giving you the theories, and I expect every one I would mention would find an echo in the practice of some man in this room. I try to avoid them as far as I can, and yet I find that my work is frequently hindered by some of these theories. For instance, in selecting salesmen, I have in mind a particular type of man who is a most successful salesman I have known, and I assume every man who looks like him will make a great salesman, and every man who does not look like him will fail. I have to be on my guard against this erroneous theory.

One of the great things in vocational guidance and vocational selection is to clarify and codify the theory on which we are acting. This particular contribution we are discussing now is such a codification, and I see, therefore, in this document a great advance. I think we should all codify our theories, and we ought to know what we are doing and why we are doing it, and I conceive of that as one step in advance.

Personally, as to certain sections of this report, say from page 364, and including the next seventeen pages, I am interested primarily, not in the formulation of theories, but in the testing out of theories, in the accumulation of facts and testing out the theories with them. We must have theories, but the important thing for us to do is to check them up and see which ones are best.

The method that I have been employing is to take any theory, no matter what it is, and try it out. The only ground on which I object to a theory is that you cannot test it. For instance, the best known employment expert in America told me in filling twelve thousand places she had never made one mistake. I am interested in the scientific collection of facts, and I have abandoned all hope of securing any in that direction. There were no facts in this case I refer to. I could not investigate anything. There was no way of proving any success or any failure.

The methods described in this outline, from page 368 and thereon, are all, you will observe, methods of finding out our mistakes as well as our successes. If I can show you how you have made your mistakes, I believe I can trust you to get going right in the near future, but as long as you do not know when you are hitting it and when you are missing it, you do not have any chance.

Scientific discoveries are not brought about because we have new chemical reactions or new forces in the universe; no, not at all, they have all been there all the time, but we have new methods of observation. We have been able to see them from new angles, and thus science has been advanced in the physical world.

What scientists are trying to do is to bring that same method into play in dealing with human relationships. What some of us are trying to do is to standardize conditions, so that you can provide us with data which is usable, and then we will try to analyze these data, compare them, and check them up with other data, and ascertain which are the better data, which gives the better results. I do not feel at all sure that this thing is going to be accomplished rapidly. The advance in science in the physical world has been going on for some time. I do feel very sure, however, that we shall be able very soon to show some of the errors and indicate some of the lines along which progress has a greater chance of success than along other lines. This then, I would think of as the second step in the vocational guidance. The first is to have a theory, to formulate it and to use it correctly. We may have theories formulated and use them incorrectly.

The second step is to collect data to check up the theory on which we are working.

PRESIDENT MCLEOD: We would like to hear from Mr. Sturdevant on the subject.

MR. CHARLES R. STURDEVANT (American Steel & Wire Company): I did not come this morning prepared to make any remarks, and I can only hope to emphasize some of the points already made. I think we all agree with the ideals and the principles which have been so very ably covered in the report written by Dr. Metcalf. This report has to do with three classes of persons—first, the executives, and the executive of to-day is a pretty busy man. I fear but few of them have had the time to devote much attention to the thoughts which are so ably covered in this report. Second, that very large body, the rank and file of workers. Very few of them, I am sure, yet know how to interpret the meaning of such phrases as “the organic conception of the individual worker.”

Third, the report has to do with such persons as ourselves in this Association who are educators.

It is one thing to believe and to agree with these principles, it is a very different thing to persuade others to the same belief, especially when those others are our executives. It is still another proposition to resolve these principles and ideals into acts so as to obtain beneficial results.

It seems to me that to apply this very able report practically, we must first thoroughly prepare ourselves.

First learn how to approach our officials with this matter, then how to convert them, and that is some job in itself, as Mr. Dooley has already mentioned. We have got to work with them, first, then through them to the workmen. I believe that is all I have to say regarding this matter.

PRESIDENT MCLEOD: I was thinking, as Mr. Sturdevant was talking, that there might be some definite way of getting through to the manager and getting him to furnish a copy of a document like this to the head of each department, giving it to them through him, the head of the enterprise, and the chief executive convincing these men that they are expected to read it, because they will probably be asked questions as to the contents of it. Then have the matter followed up, and have the executive ask the judgment of the head of the department whether he did receive any benefit from this document, and if he did, then say—"Don't you think you had better do something to carry out some of the suggestions?"

That thought just came to my mind as Mr. Sturdevant was speaking. I believe I will do that myself.

MR. ALBERT C. VINAL (American Telephone & Telegraph Company): Mr. Chairman, Ladies and Gentlemen: It seems to me that it is particularly appropriate for us to be discussing here in Pittsburgh so fundamental a subject as that we are discussing this morning. I suppose that thirty or forty years ago a master mind of the steel business might have outlined his conceptions of the fundamental value and importance of utilizing all the scientific means available in their application to the steel and iron industry. If he had done that, or if the great head of the oil industry had done the same thing in relation to the oil industries, I presume many of those who might have heard either of them would have regarded them as idealists, but the careers of those men and the development and the success of the business which they created, has demonstrated that they were

vastly more than idealists, that they had the most practical conceptions of the possibilities of the business.

I suppose that thirty or forty years ago a manufacturer or manager who utilized the services of engineers on his staff, was regarded by many as doing a thing which was flossy and impractical, and yet to-day, of course, the engineers are as natural a constituent part of an industrial organization as are the men who work at the machines, etc.

The point I am trying to bring out is, that the engineer has come to have a fundamental place in industry. The attitude of any progressive business manager to-day is to utilize all the means of science in the development of his plant, and in the development of his processes. To-day I think we are considering something which is as fundamental in the development of industry, as was the application of the results of science to materials and processes, and that is the application of the results of science to the problems affecting personnel.

Now, in this period of a generation during which the engineer has come to play so large a part in the industrial field, is it not true that there has at the same time been a growing inefficiency in the individual workers? Is it not the constant complaint of the industrial manager that the workmen not only want more, but want to give less? Is not the whole attitude of the workmen distinctly different from that of a generation ago?

This report, it seems to me, is a statement of the fundamentals with regard to the personnel. In a word, it is stating with regard to the personnel, what one of those great industrial leaders might have said a generation ago if he said—"My policy and my lead over my competitors is simply due to the fact that I believe it is good business to employ every scientific process that is pertinent to my business and to utilize every type of engineer who can be utilized in my work."

Now, all of that relates to the physical sciences. We need here also the human sciences. The wise manager of to-day and of the future generation is going to say—"I will lay hold of all the help science can furnish in relation to the handling of the organization." The report implies that there is going to be a new profession which is to be as important in the management, in the handling of great organizations, as has been that of the engineer.

So the significance of this discussion, and of the fundamental conception which Dr. Metcalf has laid down in this report, is simply the proposition that all the problems of personnel should be studied as we have studied in the past the problems in relation to materials and processes. And if that is to be done, it must be done, as stated in the report, and as stated by Dr. Scott, with the same scientific attitude and same scientific processes. There is need in order to do this for the introduction into industry of those who are adequately trained in the human sciences, who have an adequate conception of the problem, such a conception as will make it possible for them to utilize those who are qualified to work out the various lines.

PRESIDENT McLEOD: This subject is now open to any one who cares to take part in the discussion.

MR. J. D. GILL (The Atlantic Refining Company): I would like to add the weight of my voice to those who have preceded, in elevating this particular phase of the work of the Association, because it is absolutely impossible to carry on the other phases, that is training, educating and so forth, unless we have made proper steps in the direction of vocational selection.

We cannot efficiently train men who are not adapted to the particular kind of training we wish to give them, and therefore all our efforts along lines of training, whether with apprentices, salesmen, office workers, or others, will be almost futile unless we have apt pupils.

We have heard a little concerning the different methods by which employment managers have in the past selected workers for their respective corporations. We are told that one man selected tall workers, and another selected short workers, others were controlled by the general appearance of the applicant, and so on. Finally, Dr. Scott told us that it is his desire to test out these different theories, and right here I would say that, in my opinion, no one theory is at all adequate to the need. We talk about making a scientific study of this matter of vocational selection, but in our study we have neglected to use many very definite scientific principles, which we ought to employ.

Let me give a simple illustration of the type of scientific principle that might aid us in solving this problem. In chemistry, we may endeavor to determine what metal may be present in a certain solid that is submitted to us for analysis. If we

have the substance in solution, we endeavor at once to precipitate a compound of the metal. If a solid has been submitted to us, we dissolve it in some suitable solvent and then add our precipitating reagent. Now we may use, for example, with certain solvents and certain solids dissolved in those solvents, such a precipitating reagent as a chloride, and find that the precipitate is white. Now, there are several white substances, silver chloride, lead chloride, etc., precipitated from solution by chlorides. Therefore, after we have made this preliminary step, we are still far from the end of the operation, because we must then determine how that particular white substance, precipitated by a chloride, reacts with other reagents, in order to still further classify it.

Although this most simple of chemical examples is somewhat complicated it is very simple compared to the extremely complicated problem of the selection of men. In our chemical problem we have but a few variables. With our human problem we have a multitude of variables.

I might give one other example from the sciences and arts to illustrate this particular principle, namely, that we must give due weight to every factor involved in the problem of selection. Consider, if you will, the science, for it is a science, of lubrication. We have in that science the same definite problem of selection—what lubricant shall be chosen for any particular class of work. We have a great many variables with which to contend in the determination of the selection of a lubricant. For example, the pressure that is exerted on the bearing; ordinarily a heavy pressure, demands a heavy oil,—an oil of so-called high viscosity. Then we have another variable, speed. Ordinarily high speed machinery demands an oil of very low viscosity, the other extreme. Then we have the condition of temperature; how hot is the bearing. This condition also partly controls the kind of lubricant that shall be used on the bearing. Furthermore, the method of applying the lubricant to that bearing determines to a very great extent what shall be our selection of oil. Then we have the actual condition of the bearing itself, whether it is a new, well-fitted bearing, or an old, loose-fitting bearing, and this factor will determine, in some degree, the kind of lubricant which shall be selected. Again, we have the atmospheric conditions, whether there is dust about the bearing, and again.

whether there is a possibility that the lubricant may drop from the bearing and injure some fabric being made on the particular machine. And so, you will see, we have some eight or nine different conditions, all of which must be considered in detail, before making selection of such a simple product as a lubricant with which to make a machine run smoothly.

Now, when we consider our human element, we see that we have a great many variables with which to contend. There is appearance, as Professor Scott has said, stature, weight, carriage or bearing, attitude toward the work sought, ambition in life, and also training and business experience, and so on. There are not simply eight or nine variables, but many times that number.

Now, we might say that every man whose head is of a certain size, say twenty to twenty-four inches in circumference, should have a certain mental and business capacity, but we know now that there is no rule to guide us—that we cannot depend on the science of phrenology to a very great extent. We know that a man may have a large head, and may not have used the contents of that head, and, therefore, has not attained a very high degree of personal efficiency. We know that a man like Oliver Wendell Holmes may be of small stature, but of great mental activity, and so on. When can we give our men psychological tests and be satisfied that those tests will aid us substantially in our selection of men? Some men have had training in psychology, and are more apt to pass those particular tests.

So we have these multitudinous variables, all of which must be taken into consideration if we are going to make a just and proper selection of work for ourselves and others for our work.

MR. NORMAN COLLYER (Southern Pacific Company): I ask if Dr. Metcalf will kindly define the word "organic" as it is used throughout this report. I understand organic in the chemical and physical sense, and in the musical sense, but I do not quite get the meaning in the economic sense.

DR. HENRY C. METCALF: "Organic," as used throughout the report, has a two-fold meaning. In the first place, it is used to emphasize the organic conception of the individual as a physical, intellectual and moral being, and to emphasize the fact that all final value rests in human personality.

In the second place, we have used "organic" to call attention to the interdependence, the mutuality, that must exist between employee and employer, between different businesses, and between all business and society. The first paragraph of the preface to the report brings out the meaning. It is there stated that the report is an attempt to set forth what employee, employer and society should strive for in the human relations in industry—the realization of an organic unity in each individual life, in each business, between business, and between business and society.

We find it difficult, perhaps, to think in the sense of the "organic" in matters economic because we have held to such a narrow conception of value in the economic relations. Nothing will do more to broaden and give us a just conception of value than to try to think through the human relations in work. This will compel us to realize what a complex, many-sided thing value is.

Our report in its ideals starts with this broader organic view of value, and then later, in synthetic outline, it calls attention to the many-sided interests of the individual that must be conserved in the work relations. It takes a workman out in the open labor market, carefully selects him, and on through the many phases of his work relations guards his physical, intellectual and moral worth to the end of his working days.

MR. J. E. BANKS (American Bridge Company): This matter of bringing the theories and ideas of the Association before the executives of the companies came up something like a year ago when we first joined the Association. The paper on the school work at Ambridge I had prepared for the American Association for the Advancement of Science came into the hands of our Executive Secretary, Mr. Henderschott, and was printed in the Bulletin. We obtained from him a sufficient number of copies of the Bulletin to send to the officials of the company to read. I think each one to whom it was sent read it. We have sent copies of the text-books we have gotten out to the men also, who are in responsible positions. A number of the reports issued by this Association I have taken pains to send to the men who might be specially interested in them. When the Convention report comes out we plan to mark certain paragraphs, sending a note with the copy, pointing them out. I felt par-

ticularly pleased with this report of Dr. Metcalf. I was, as past college experience, a foreign missionary for about five years. After coming back I used to stop and muse sometimes, as a draftsman, over what missionary work could be done on the job. Since the subjects of educational and vocational guidance have come so prominently before us as a company, I have felt coming over me strongly the old spirit I once had.

I told a visiting missionary friend who stopped lately at our home, that it was like being a Bishop, this looking after the welfare of the men and women associated with us.

Considering the book study of the things which have to do with vocational selection—talking with our employment officer, I said “After all your reading and study, when it comes to the selection of men, don’t you decide the matter on intuitional feeling you have formed regarding him, and not upon any particular thing, or any list of particular things?” He looked around to see if anyone was listening and said, “Between you and me, that is exactly what I do.”

MR. F. P. PITZER: The organization with which I am connected, The Equitable Life Assurance Society of the United States, 120 Broadway, New York City, New York State, U.S.A., “the strongest life insurance company in the world” (laughter) has solved the service betterment problem very successfully. By direction of our Board this work has been put under a vice-president specifically charged with looking after the welfare of the employees of the company, and I might add that the officer who inherited this work is so active in this respect that our trouble is not getting to him, as complained of here this morning, but keeping from him, for he has my bureau going in every direction of the compass, looking after methods new and old and mediocre which will promote or better, hygienically, educationally and humanely, the conditions of our force. It is this fact of having an executive giving personal direction to our service betterment work that has created and kept alive the wonderful esprit de corps which exists in the Equitable.

MR. J. W. DIETZ: I simply have a question to ask—how can the member companies secure additional copies of this report of the Committee on Vocational Guidance in this form or in similar form.

PRESIDENT MCLEOD: I will answer that, because I have asked

the same question to myself without getting a reply. The only way in which you can get an answer to that question is to take the matter up with the Executive Secretary, Mr. Henderschott. I think if there are enough people who require this particular document, to be used in quantities of one, two or three dozen, that means will be found to supply that need. Whether we have enough now to distribute and cover these needs, I am not informed on that, I do not know. I doubt very much whether we have.

MR. J. W. DIETZ: I move you, therefore, Mr. Chairman, that the Executive Committee be instructed to determine from among the member-companies represented here the number of additional copies of the Report of the Committee on Vocational Guidance issued in a cheap form such as this pamphlet to meet their needs.

MR. KENDALL WEISIGER (Southern Bell Telephone & Telegraph Company): We have the thing pretty thoroughly in our minds, and I would like to get quick action on this if we are to get quick results. The inspiration you get to educate the boys is a big problem. My thought is that we should have immediately a second edition of this report. Let us telegraph to New York to put it on the press and not wait for the transcription of these notes, get it out in the same shape, and let us be put in possession of these things quickly, as a part of our reports to make to the boss when we go back, and to have a number of copies of this vocational guidance report to distribute among the various heads of departments I believe would be of very great value.

MR. C. R. DOOLEY: The gentleman that just spoke made my speech—I do not know whether his suggestion was seconded or not.

PRESIDENT MCLEOD: I think I would take any motion of that kind as being carried by you gentlemen. I am still President, I will not be so much longer, but the action can be taken. There are enough members of the Executive Committee here so that we can do the thing intelligently, and it would depend on quick action, I think, for fear there might be a distribution of the type. It is set now, but I do not know whether it will be long. I would go right away, as soon as I leave the room, and get Secretary Henderschott on the job. You have heard the motion.

(The President then put the motion to vote, and it was carried.)

MR. PAUL KREUZPOINTNER (Pennsylvania Railroad Company): Permit me to express my sincere congratulations and approval, not only to Dr. Metcalf, but also to the Association on receiving such a comprehensive report like this. While it is ideal, to a large extent, and we cannot expect to have these ideals transmitted speedily into practical life, nevertheless, we ought to have ideals to guide us in our daily transactions. This report is all the more significant in the progress we are making, socially and economically, since the time is not far distant when such a report would not have been thought of and there would have been no association like this one to receive and approve of it.

I remember a case, not so many years ago, when in an industrial city I called the attention of leading men to the need of certain social improvements, and I was told that they did not believe in altruism and that there was no room for altruism in that town. They think different now, though. As far as the narrower aspect of vocational guidance is concerned I have found, during my sixty years of industrial life, that those, whose general intelligence had been freely developed through elementary training in the fundamental laws of science, mechanics, economics and industrial history were always able to adjust themselves more easily to changing vocational requirements than those who had had a more elaborate training along some specific line only. I find a paragraph in the report which is headed: "Tardy Admission of the Need of Machinery for Adjustment." How can we adjust defects in the machinery of organization of our large industrial establishments? For instance, I have often noticed the discouraging influence of the so-called flat rate for a labor group where all receive the same pay, irrespective of the greater or less value of individual efforts in the group. While, from the managerial standpoint, the flat rate principle is practical and convenient, it is liable to lead to dissatisfaction and reduces the efficiency of the group to the standard of the inferior ones in the group. Would it not be a social as well as an economic advantage if a way could be found to modify these effects of the flat rate principle?

Again, with the rapid growth and expansion of industry and commerce, it may happen, and does happen, that high grade

work grows into the hands of an employee whose position was not calculated originally for such work. If then, the principle is pursued of paying the position and not the man, though he is able and expected to do the high grade work, and is not paid for the work he is doing, but only for the position he is occupying, and for one reason or another no higher position is open for him, then there is injustice and dissatisfaction not only with the man, but with the force, who are quick to see the drawback of an inflexible organization.

Thus, a feeling of unrest may be created for which no one in particular is responsible, having grown unconsciously out of our rapid expansion, but which, nevertheless, is liable to tend to loss of confidence in the sense of justice in the management.

This brings us to the consideration of the executive abilities of foremen and minor officials. Their ambition is to make a record.

I am by no means the only one who is convinced that many a strike, and a good deal of strife and contention between capital and labor is due to lack of judgment, hasty and arbitrary action of foremen and minor officials, who may be good mechanics and engineers, but are poor judges of human nature. I have known cases where the action of foremen and minor officials was contrary to the sentiment of the higher officers and the policy of the company or corporation. If no trouble arose it was due to various restraining causes but it laid the foundation for a silent dissatisfaction and passive resistance more undesirable than open opposition.

It would be very desirable, as pointed out in this report, to get around this difficulty of possible injudicious action by foremen, by creating some other official to rectify and adjust the results of such actions. But, unfortunately, even by creating such an intermediate wheel of adjustment, if you please, the subordinate executive officer is always in direct contact with the men and for that reason a larger, broader training of foremen and minor officers along social and economic lines might be found a more advisable and constructive step forward. If this can be done in other countries we ought to be able to do it too.

The men of a given social group will be more loyal to the members of that group, even to the extent of shielding them from the consequences of infractions of law or discipline, than they are to their employers.

At the same time most likely they were never taught that, while loyalty to the group increases the power of association, this loyalty also imposes the moral obligation to use the power of association for raising the moral and intellectual standard of the group for the welfare of the community. If foremen and subordinatae officers have no understanding of these social relations and power of group action and simply follow standard rules literally or allow their inclinations to dictate their actions then any ever so well-meaning a sentiment of a high officer or corporate policy will not prevent friction and mischief. Hence the present necessity, under this modern condition of group activity and loyalty, for training the mass of the people in something else than mere manual dexterity and skill in handling tools and, with some, to play the "boss".

In other words, vocational education must not only teach how to make a living, which, rightly, is a man's selfish duty to himself first, but in addition he ought to learn that he also has moral obligations to those around him and without whose presence, co-operation and prosperity he could not make a living for himself.

PRESIDENT MCLEOD: If there is no further discussion, we will call on Dr. Metcalf to close this session.

DR. HENRY C. METCALF: Mr. President, Ladies and Gentlemen: There is very little I care to add to what I have already said. The general agreement among the delegates and speakers as to the value of the report is a great satisfaction to the Committee. If it proves to be of some concrete value to you in the solution of your problems, we shall be more than repaid for our labors.

Mr. Vinal has touched upon one thought that is vital in this whole matter of the human relations in industry. It is of special significance to the members of this Association, and that is the broadened scope of the meaning of the word "engineer" and the broadened scope of the functions the engineer is destined to assume and perform in our future society.

Franklin, one of the greatest characters our country has produced, states somewhere in his writings that an engineer is an ingenuous man—one who creates something new. We already see the many uses the word engineer is put to,—mechanical engineer, industrial engineer, social engineer, human engineer, etc. Now since this is an age of machinery and since the way the

machine reigns is so vital to the welfare of society, the broadening of the functions of the engineer to comprehend the human relations in industry is vital to the welfare of society.

This broadening conception of the functions of the engineer in the industries is bound to produce a decided effect in modifying our engineering education. The training of the future engineers in our technical schools so as to give them a true grasp of the far reaching significance of the human relations in industry is one of the crying needs of immediate educational reform.

One thought further and I am done. And that is the reference of Dr. Hamerschlag to the idea of economic democracy. This, of course, is the keynote to the report. The report is an effort to introduce the idea of democracy—more often throughout the report called “co-operation”—more fully into industry. It assumes the generality and versatility of human nature, believes that every man, woman and child is capable of something more than just earning a living, and believes that a genuine democracy in politics, education and religion is impossible without a reasonable democracy in industry. With the overpowering influence in society wielded by the business leaders, it behooves us to see to it that the growing democratic movements in industry, while clearly recognizing great inequalities in talents, at the same time firmly believe in capacity for growth and are determined to work in the direction of self-analysis, self-development and self-control.

MR. J. W. DIETZ: Is there to be a Round Table on the report of the Committee on Vocational Guidance?

DR. HENRY C. METCALF: No provision, I believe, has been made in the program for a Round Table. I have not brought up the matter of a Round Table, because there seemingly was no time for one without running into some of the assigned work. If it is desired by a sufficient number, arrangements can probably be made to hold a Round Table this afternoon after the business session. If those who desire to have a special meeting to discuss various phases of the vocational guidance report will please step forward at the close of the session, we can at once arrange for a Round Table. (About thirty of the members came forward to arrange for the Round Table). The meeting then adjourned.

ROUND TABLE ON VOCATIONAL GUIDANCE.

WEDNESDAY AFTERNOON, MAY 31ST, 1916.

Dr. Henry C. Metcalf, Chairman of the Committee on Vocational Guidance, called the Round Table to order at 5.15 o'clock.

THE CHAIRMAN: Our time is very brief—we have about three-quarters of an hour. Is it your pleasure we shall begin or wait for the others?

SEVERAL DELEGATES: Begin at once, Doctor.

THE CHAIRMAN: What is your pleasure with reference to time? Shall the presiding officer confine the remarks to two minutes, three minutes, five minutes, or what? The meeting is in your hands.

SEVERAL DELEGATES: Two minutes.

A DELEGATE: I would like to suggest, perhaps, we will get most out of the Round Table if those here will state what they consider the most vital facts of the report as they have seen it.

A DELEGATE: We have not had an opportunity to study the report. You cannot read that report and state what the vital facts are. You have to live with it for awhile.

A DELEGATE: I have not found any that were not vital.

A DELEGATE: I am assuming you had preliminary copies.

THE CHAIRMAN: I make this criticism or remark about the morning session, that to me it was exceedingly interesting, but that it was too general; that it would have been better if the speakers had confined themselves to some specific experience, or some specific fact, and directed their attention to that. I do not know whether that suggestion will help you this afternoon or not. There were a few gentlemen who have talked with me since the morning session who are interested in getting concrete suggestions this afternoon with reference to a solution of some of their problems. I think in one instance which I recall they had to do with the relations between the employer and employees in the matter of the adjusting of grievances.

A DELEGATE: What have you in mind Mr. ———; what did you come in here for?

A DELEGATE: To hear what the rest of the folks had on their mind.

A DELEGATE: What have you on your mind?

A DELEGATE: I have a word of testimony in the line of vocational guidance with regard to the value of the natural activities within the organization as a means of selection; in other words, our employees' activities as a vehicle for expression and self-assertion in a way that is of value to the organization; in other words, we have within our employees' activities what I feel are splendid opportunities for the discovery and development of executive ability. Our work is carried on on the fundamental basis of helping our people to do things for themselves, and furnish the facilities and opportunities, but having our employees bear the burden of expense and responsibility themselves. There you have a naturally selective device that is of tremendous value.

I do not know whether any other company ever had the experience of using these so-called side lines of social activities and athletic activities in a way that comes directly home to their own organizations or not, but I think there are tremendous possibilities in that sort of thing. Is that within the scope of his subject?

A DELEGATE: I may be pardoned for appearing on the floor so often. There is one thought that I would like to bring before you, as I did last evening in the Round Table on Special Training Schools, because it seems to me that it should be given consideration in connection with this report, although I do not find that it has been given a concrete expression therein, and that is this—that the time has arrived when corporations and employers generally should assume the responsibility of educational guidance as well as vocational guidance. We know because of the large number of correspondence schools that have appeared in the field in the last six or seven years that there is a constant and increasing demand for service of that nature. We know also that while some of these schools are run upon honorable methods, and based upon broad principles, there are more that are concerned with selling their courses through aggressive salesmanship, and still others are concerned in nothing else than selling their course, that is, they are absolute fakes. We know, also,

how difficult it is for a young man burning with ambition and anxious to advance himself to stand up against the salesman who comes in and goes to work on him and makes him the prey of this particular type of commercialism.

Hence, it seems to me necessary and important that the employers generally should acquaint themselves with the correspondence schools which are likely to send their representatives among the employees and should be prepared to give educational advice and guidance when it is requested. I know from the experience in our own company that our men are constantly reading these advertisements, and they are receiving calls from the salesmen of the correspondence schools, and they come to the officers of the company for advice, and are frequently referred to me. They say, in effect, if you do not care what we study, who in the world will care? That advice our company, at least, is not yet prepared to give. It appears to me, however, that it is a proper function of the management of corporations to undertake that.

THE CHAIRMAN: Pardon me, just a moment. I would like to call attention to the fact that in the report of the Vocational Guidance Committee this definition occurred last year:

Vocational Guidance is the scientific selection, adaptation, instruction, training and protection of employees.

The report of this year deals with education. Personally, I should have very little interest in a conception of vocational guidance that did not include educational training.

A DELEGATE: You deal in the report with the subject of training on the part of corporations or employers directly with their employees, but I do not find that you touch on the outside training, which should be under the advice of the corporation.

THE CHAIRMAN: That reminds me of a duty I should have performed this morning. I neglected to state in the instructions to the vocational guidance committee this year from the Executive Board of the Association we were asked to go into the field of vocational guidance outside, and particularly secondary education, with the idea of discovering anything there which would be of service to the corporation. After the Committee met, we found that was such a great task that, as we had no funds with which to pursue the subject, we thought it wise to confine ourselves to the business side, and not go outside. In that sense

the report is not complete, but in the definition of vocational guidance that is included as we intended to have it.

A DELEGATE: Last fall a certain correspondence school sold something like sixty-seven scholarships among our men. Of these sixty-seven, I think there are something like ten or a dozen who have gone along far enough with their work and study in that course to find out that they could not get any good out of it. Taking the proposition as a whole, it would be a case of not getting what they had paid to get, let the fault be where it may, we found out that condition really could not be solved for our men through what we had to offer them in the voluntary school work, in that line we could not overcome this. We had one of our teachers go through the shop in something the same way like the correspondence school man had been allowed to do, and he did more to offset the trouble that had arisen than anything else which had been done to offset it, and he advertised the work of our school, and we did quite a good deal this last year in the further education of our men.

We have not any official who has in any way done anything to guide these people in what they should study. Of course, any man comes to be more or less an educational guide in our work. In an extreme case, to show how tact is needed, we had a man about thirty-five years of age, married, home in town, poor, who thought he had a call to be a lawyer. He had only a good common school education, he came from a country school. I tried to tell him, in a nice way, that he was not at all in a position where it would be possible for him to become a lawyer, that he would have to spend several years in study, and be in a position to expend quite a large sum of money for his instruction and text-books, etc. There was no use, he had to be a lawyer. I said to him—"Instead of quitting here, and going to Pittsburgh, to some school, or some other place, why not let us give you the things necessary to enable you to study law?" I tried to give him anything necessary to hold him. We then gave him two months in which to make his preliminary studies, and think over the situation, and that was sufficient time. We were satisfied to hold the man for two months, and that fixed him all right. I think the man directly in charge of the work can do these things more effectively, from the fact that he does not have to do them.

THE CHAIRMAN: I do not know you, individually, many of you, what you are trying to do and what your problems are, or what you would like to offer and listen to.

A DELEGATE: I just came in time to hear some criticism of the correspondence schools, and I did hear that some of that criticism was very well founded. I want to state for ourselves that under the present management, the new management, we are developing an industrial department that is getting in touch with the employer. The new management had adopted an entirely new plan of compensation for representatives in making enrollments that will prevent what under the old system was possible with the class of men who were given the greatest credit and the greatest pay, for the greatest number of enrollments. A new plan has been adopted in which they get their compensation based on their collections. The enrollment part of the work is so limited that they are required to make proper enrollments, to enroll the right kind of men, and to follow them up in their collections in such a way to see that the men are getting full return for their money.

Then we have put into practice an encouragement department that is doing some wonderful work. I left the Dayton Convention and went back on a special trip, leaving Mr. ——— there, telling him to remain there, that I was going back and going to arrange that our instruction papers should be available for every corporation school that wanted them. I was full of enthusiasm and went back with that idea, and was turned down flat as a pancake. I want to say that the present management takes an entirely different view of it, and that every effort is to be made and will be made to co-operate with every reputable educational institution and educational movement, and that anything we have to offer, of methods or experience, is at the service of The National Association of Corporation Schools.

A DELEGATE: I would like to follow out the line you started to ask a question about some time yesterday, and that is this: about the getting together of the different departments which have been considered at one time and another, under one head. This whole report, it seems to me, is not so much a vocational guidance report as it is a sort of summing-up of the relations between the employment department, the educational department, the safety department, the health and sanitation department, and

all the other departments which have to do with the welfare of the employee and the human relations.

We have been doing what we could in that direction of bringing these different departments together ourselves. We started out a year ago with just the educational department and we gradually absorbed other departments that seemed to be traveling around without anybody to guide them, and we gathered them under our wing. The result is we do not know what our department is yet, but I did not know but what some one in this audience would christen it for us. I see Dr. Metcalf has called it "The Organic Development of Business." I do not know just what we can call a department like this. It seems to me to be a "Department of Human Engineering."

Then the question came as to the title of the man at the head of it—of course, if it is a department of human engineering, he must be a human engineer, and then we discovered in the case of all our engineers we had that they were men, and there was more trouble.

THE CHAIRMAN: As I suggested this morning in my remarks, it seems to me that what we want is to add to the old departments a department of human relations, in order to concentrate there all these problems we are after. That is the way I see it. Now, the idea of vocational guidance must take in, as I see it, what we call the welfare work, and what we call the health, the education, and all those departments which have to do with the individual.

It seems to me we must concentrate our attention on the man and ascertain what we want from the man and what has the man a right to expect from the corporation. We find we must go into the home, and there the welfare director becomes a guide; we must go into the school, and there the instructor becomes a guide; we must look into the health of our men and their families, and there the physician becomes a guide; and we must look into the employment bureau, and there the employment manager becomes a guide; and we must go into all of the departments of our plant, and there the foremen become guides. It calls for psychology, physiology, economics, sociology and preventive medicine. And all of it because we are after the protection of the man at every angle. If you can get a better title than human relations, I am free to accept it; the welfare man in-

cluded, the educational man included, it gives something concrete in the way of an ideal.

A DELEGATE: Would "Superintendent of Employees" cover it?

THE CHAIRMAN: You are thinking of a title for these various activities?

A DELEGATE: We are trying to christen this man's department.

THE CHAIRMAN: I do not know enough of detail business.

A DELEGATE: The Department of Human Relations is, in a sense, too broad, in that it might be construed to include public relations.

THE CHAIRMAN: It must represent those relations to a certain extent—the third paragraph here says: "What society has a right to expect from employers and workers." You must go out into the community. I have been discussing with some gentlemen in this room, who have taken this matter up with the heads of their corporations, who formerly said, "Let the community alone," and they are about to change front, because they see so much that is wrong in the community, and the wrong is clearly traceable to conditions of society.

No matter what you think of Mr. Ford's sociological plans, the fact is there is something vital there, but you must think in the terms of the living day, twenty-four hours, where we work, play and recreate, where we live, sleep, and do everything which has to do with the life of an efficient individual. One of the most useful things is to know where to draw the line between business and recreation. I have a friend in the East who wrote me asking me if I could find a young man to go into another state in order to handle the recreation activities of a town, and it is interesting to note that he wants it under the guidance of the Y. M. C. A., and he is prepared to pay cash. He says if the young man makes good, he is prepared to pay any salary that is reasonable thereafter. If we think of the worth of an individual, we must think of him in terms of his daily life. One employer of a large corporation says, "Live in harmony with your wife, or you get a divorce, or you leave this business." That is right in the sense that I cannot go into my business and be efficient if I am worrying about what is going to happen in my home when I get back at night. Vocational guidance conceived in that

light takes in all these others. I do not like the term "vocational guidance," because, as one speaker said this morning, there is so much work outside to do that it is superficial.

A DELEGATE: I guess I am the only representative of the educational work done in the Y. M. C. A. I have not found anyone outside of myself at this convention who is connected with that work. There is one particular phase of this subject of vocational guidance that is interesting to me in my work, and I have done a great deal of reading on that line during the last winter, and it will only take a few minutes to get this subject before you, and it may provoke a little discussion.

What I term vocational guidance divides itself into three main headings, and in this definition of vocational guidance the way I have been accustomed to think of it is not in terms of the broader relationships, such as you outlined in your report, but along the line of preparing a man for a job and seeing that he has correct characteristics for this job, and so, as I say, there are three main divisions.

The first is, vocational information about all kinds of occupations. Study the occupations with the idea of determining what characteristics are necessary to make good in those occupations. The second step is the study of the bent of the man, the aptitudes of the man, from the man's standpoint, that is to say, to discover if he is adapted to any one particular vocation. Then the third step would be a follow-up, a careful checking up, to see if the information and the advice we have given the man has been the correct information and advice, and ascertain whether he is filling any of these different occupations, whether the selection has been based on scientific principles or not.

The particular phase of the work which interests me most is the second division, that is, the bent of the man for the job, and in that connection, I presume a number of us read the article in the March number of the American Magazine, by Hugh Fuller, along this line of vocational guidance and the selection of men for different jobs, and in that article Mr. Fuller gave a number of simple tests used by a number of Chicago firms in selecting men, some arithmetic and some English tests, and I notice in one of the appendices of the report a somewhat similar test which had been submitted by one of the companies to your Committee, Mr. Chairman, and I want to find out if that is prevalent

among corporations, to make use of some kind of simple test to see if the man is fitted for the job, and if it is possible to use tests to see whether a man is fitted for one or another of these different occupations.

THE CHAIRMAN: What appendices is that?

A DELEGATE: Dr. Scott's article.

THE CHAIRMAN: May I say, by way of reply to that, that the conception which you have is vocational replacement. I know that Dr. Scott has applied these tests at quite a large number of places, and he would be glad to give you that information. I think he intended to come here, but he is not here. Other psychologists have done the same.

A DELEGATE: I might say our company has been conducting some experiments along that line, and other companies are doing it also.

A DELEGATE: To what extent?

A DELEGATE: As to the number of companies, or extent within the companies?

A DELEGATE: As to the extent as to the number of companies, and also the extent within the companies that would be interested in it.

A DELEGATE: I think quite a good many companies are interested in that. I know that an Association has recently been formed, called "The Economic Psychology Association." Quite a number of firms have joined that association, and quite a long list of subjects have been given which have been or will be the subject of research. I think it is a thing the company has got to be pretty careful about. Our own investigations indicate it is necessary to accumulate a considerable amount of data through a considerable amount of experimentation before you get anywhere. That is, merely to give these tests, if the company has not accumulated the data, will not get you anywhere. In fact, the handling of the results is a big task in itself. If you have gotten tests which give the correlation of persons of known ability, then you are in a position to give the test to persons of unknown ability, and we have gotten to the point where we are using certain tests. We have a man to whom the results are sent to calculate the correlation, and we are given the interpretation as to what they indicate. While seen on paper, they are perfectly simple, and they give you general

results in a few seconds' time consumed to perform the tests, yet the actual interpretation of the results as to the relative quantity of performance is not so simple. I do not see how many companies could use psychological tests to any advantage without having done a very considerable amount of experimental work to get data with which you can compare. I do think perhaps many companies have given some of these tests. I have no doubt, inasmuch as these tests have been given, that a good many companies will give these tests, but in order to make the results of any value, they must have a standard with which to make comparisons, and unless there are standards with which to compare, they do not get anywhere.

THE CHAIRMAN: In listening to Mr. ———, I recall a statement from a New England street railway president at the head of one of the largest systems in New England at a meeting a few weeks ago, in which he made the statement he expected to see psychologists attached to the staff of every important street railway corporation in New England within five years. In my university extension work, a man connected with me handed me an article describing the work of a psychologist in a textile company, the article closing with the statement they had not found anything very definite, so far as the psychological tests are concerned, but that it was of value owing to its creating a new attitude of mind throughout the entire organization. Attitude is as important as aptitude. We are trying to get the right attitude from the gentlemen at the top, and psychology will help that.

A DELEGATE: We have a problem in ———. The greatest number of our school children in ——— leave school around fourteen years of age, about the time they are through the sixth grade, and a number of the boys and girls go out into the various industries that employ boys and girls of that age. It has come over us during the past year that as schoolmasters we should do something to aid in the replacement of these boys and girls, and I have been hoping for some expression of vocational guidance among the younger people—it seems to be among the men in the industries rather than the boys and girls leaving school.

The proposition was tackled in ——— by the appointment of a number of committees to investigate the matter. The first committee consisted of five members, a committee from the

Teachers' Club. One of these was a manual training director, three grammar school teachers (of whom two were women) and myself from the high school. There was also a movement which led to the formation by the Rotary Club, a business organization, of a committee of three. Also a committee from the Chamber of Commerce, a committee consisting of three business men and three school men, one of the latter from the School-master's Club, one from the School of Industrial Arts, and one from the Training or Modeling School of the city. We tried to get a committee formed that would reach the grammar schools, the high schools, and other schools in the city and the business colony. Our idea has been to collect information from the industries regarding the number of boys and girls they employ between the ages of sixteen and twenty. They probably may have left school at fourteen. We are interested in getting those about the high school age.

Then we are also looking after information regarding those who are leaving school. We are careful not to suggest to the boy or girl that we are looking for a position for him, for fear it might have a psychological suggestion that he leave school. If we find that he is going to leave school, we fill out a card giving the personal traits of the boy. These cards are filed in a central office, and that is as far as we have gone with our program. We have appealed to the industries in town that when a boy or girl goes to that industry for employment, before they give their answer they will call up the central bureau and get information on that boy or girl, and then they can decide what they will do, in the matter of the employment of the boy or girl. We are in our infancy in this undertaking, and I would like any information which any of the members can give me regarding similar plans.

I have stated briefly what we are doing, and if you have any suggestions to give me along that line I would be glad to take them back to our committee. I do not know whether we are on the right line or will accomplish anything. I was told by some of the gentlemen who were at our last committee meeting, that they feared we would not get what we are after.

THE CHAIRMAN: Are you familiar with the Chamber of Commerce work in Buffalo? It is very good, and there has been a careful study made of this problem with reference to

the schools. You are bringing up the problem of the vocational guidance of youth.

In two or three places this winter where I addressed groups of business men, they invited the high school boys who were to graduate this June to be present at the meeting, which was held for the purpose of discussing the problem of vocational guidance. That was helpful. The fathers and friends of these boys had given them an idea as to what the meeting was about, and they came and listened to what I had to say and then we had a discussion. I found in several other places where that has been tried this winter that it helps a little to get the boy's mind aroused as to what is before him before he graduates, some work having been done in the school. In other words, we are after machine methods for tying up the youth just leaving grammar school and high school and the industries, and as I stated in my report, we have not touched that point this year.

A DELEGATE: It seems to me that in respect to this question of vocational guidance, as applying to boys and girls fourteen and fifteen years of age, we want to be very wary about directing their minds too much in the direction of the vocation, for which they at the time seem to be fitted, as we know how much they change. I have been a member of a committee in connection with our work, consisting of some of the teachers from the New York High School, who were doing part-time work, and that question has come up. As proposed this year in the City of New York, the part-time work was not supposed to commence until the beginning, at least, of the third year in high school. Then the students were allowed to go one week into industry and one week back into school. If the boy or girl made good, there was a strong tendency to go on in that occupation, and, in fact, the instructors announced they had placed So-and-so on graduation in the industry in which they had been working, and there has been in the last few weeks a suggestion to push that part-time work back into the previous years of instruction.

They are even going to the grammar school to speak of certain types of work in order to hold the boys and girls who would otherwise go out into industry without any high school work, and unquestionably it is of value, and the thing must be done in order to hold large numbers who would stay only two

or three years, probably, in high school, if they were going to get this part-time payment for their work, and also the suggestion that there was a chance for them in industry. Unfortunately, most of these occupations are those which do not offer any great opportunity for executive ability or high grade work, and there will be others who will be tempted to go into part-time work, who would otherwise have gone on into more thorough school work; and I think one thing should be done—perhaps that tendency cannot be checked, and probably it ought not to be checked if we get this guidance in the school—that is, there should be some arrangement made in any school system whereby an eye is kept on these boys and girls until they get past that extremely sensitive age, and see that they do not get fixed in occupations which are not the best for them. A good follow-up system is necessary.

THE CHAIRMAN: The important feature of that contribution is by worrying about the round hole and square peg philosophy you are constantly in an unsettled state, for the reason there is no such thing in a live industry as a fixed round hole or a fixed square peg, because it is changing all the time. That is a false philosophy. It is mechanical. It takes you away from the psychology of the adolescent period.

A DELEGATE: Two weeks ago there was an article in our Bulletin which is decidedly against vocational guidance. The man who wrote it is an editor of a magazine, and I think it is well worth noting, because that is not what I take it vocational guidance attempts to do, to dictate the ultimate end the child should arrive at when he is ten or twelve years old.

Briefly, there are several ways of getting at this thing, as Dr. Scott mentioned this morning, and let me just mention four—speaking in a slang way, the “pumping idea”; the higher plane than that, the psychological idea; then the mechanical test scheme; and fourth, that which I would call a supervised tryout. We all of us feel that experience and time usually finds a man in his right place, but it takes too long. I believe it is not the fault of the experience, but it is because the experience has not been properly supervised, and so in a way we have been trying out, aside from some casual observations in the earlier selections, after the young boys of all kinds have arrived at the factory and entered the various processes, to determine their fitness for

the particular trade or part of the business which they desire to follow, and we conduct this process by the supervised tryout method, and then check it up. The great difficulty has been that the results which they have achieved, whether good or bad, have not been brought out and analyzed. I think what the gentleman needs is the supervision of his experiences, a tryout. Let the boy be subject to some examination. If a dozen men pass a favorable opinion upon some performances of a boy, the chances are it will be good. If we can give each man a variety of responsibilities, and then supervise his tryouts, and help him to interpret his experiences, he will vocationally guide himself.

THE CHAIRMAN: The only caution I will interject there is, Who are the men to pass the opinion?

A DELEGATE: Relative to the guidance of both old and young persons in special industries, I heard Prof. Munsterberg say last winter that even with all the knowledge that has been gained, and that is now at the command of the people making the deeper study of that kind of thing, given a half-dozen men it is possible to tell which of the half-dozen will make the best salesman or the best man for any particular job, but given a half-dozen men it is yet impossible by any honest, scientific means to tell what each one of those men is best fitted for, and I believe when we talk about guiding either youths or adults, with an intimate knowledge of them—or such knowledge as may be gained of them, which is the best that can be obtained—we must realize that that knowledge is not permanent, that their characteristics are not permanent, and that their activities are constantly enlarging, at least what they are able to do from day to day is changing, and their tendencies and desires are changing.

With young people, the best things the schools can do, it seems to me, is first of all to urge the boy or girl to stay at home, if possible. When the boy or girl is obliged to work, let the man who provides the places see to it that the boy is not sent into a place where there is a dead end job. If you analyze it, the fourteen-year-old boy does little beyond messenger work. That is what he really does, no matter what you call the job. He may have to start at that and go to the next thing above, and if he is in an industry in which there is a supervisor of relations in the industry, he will be able to watch the progress of the individual, in this and that position, and ultimately, per-

haps, guide him to the things best for him and the house with which he is connected.

A DELEGATE: So far the discussion has been on the boy or the girl. I believe we have got to go further than that and go into the home. There may be boys who want to be taken on as apprentices in the machine trade, and quite frequently I find in conversation with them they really want to be a machinist because their fathers wanted them to be, and he wanted them to be a machinist because he had a cousin or an uncle or a grandfather who was a machinist and knows several people who are machinists, and who say it is a good trade and there is money in it. One boy came to me and his father said the boy wanted to be a machinist, and I found that the boy wanted to be an electrician. The boy did not want to be a machinist, but an electrician. The father made up his mind the boy was to be a machinist, and was getting the boy out of his natural bent. I think it would be a good policy, possibly through the schools, to go into the home and teach the parents to keep their hands off the boy and let him follow his natural bent.

A DELEGATE: I would like to have an answer to my question.

THE CHAIRMAN: As to the general proposition whether the decision of six men would be satisfactory, I should want to know about the men.

A DELEGATE: Supervision of the tryout—interpreting the boy's experience. I would like to know if any one believes that is a good place to start to work from.

THE CHAIRMAN: It has been suggested it would be well if there is anyone here prepared to say something about the work going on in the way of supervised tryouts that we should hear from him. I am interested in that, and would be glad to hear some discussion. Is there anyone here who can speak about that?

A DELEGATE: I hesitate to say anything on this matter of supervised tryouts, because we are just about to begin a tryout of a supervised tryout. We have a particular problem in Pittsburgh, we think it is peculiar to Pittsburgh, but the chances are that every other large city has the same problem, which seems to be most urgent just at this time, and we are going to try out something next September at the opening of the school year. It is the problem of the fourteen- and sixteen-year-old boy who leaves

school to go to work. As one of the speakers said, there is little else but errand running for a boy of fourteen. It is necessary work, and there are always boys and girls to fill the positions, and as long as our boys are ready to leave school at fourteen, you will have these positions to fill.

We find usually the boy who leaves school at fourteen years of age leaves his job three times in a year, because he tires of it and wishes something better, and he is really not advancing. When the new law was passed in Pennsylvania allowing us to bring boys and girls into the schools eight hours a week, we tried to find what would be the best to do, and decided on this—a continuation school for boys fourteen and sixteen years of age, who are not in trades of any kind was provided representing as many experiences or types of experiences as possible and desirable in the community. That is, if the machinery trade is represented in Pittsburgh, it shall be represented in the continuation school, and if the painting trade is represented in Pittsburgh, it shall be represented in the continuation school, and so far we have, besides the ones mentioned, courses in wood working, type metal work, printing, metal work, blacksmithing, plumbing, salesmanship, etc. The idea is one that requires the co-operation of every corporation and every corporation school system. That is, that the teachers shall be part-time instructors from the industries. We feel there should be borrowed from the machine trade one of the men who has charge of the apprentices when they go into the trade, and if we have pupils enough for only four one-hour courses in the week, we would like to have them under the care of that kind of a man, as he would naturally take care of those boys when they are apprenticed in the industry. Put the boy in the machine shop because he thinks he would rather be a machinest than anything else. Give him as much time as you can in the machine shop, and let the man who is guiding him or teaching him decide whether he should stay in that work. If he decides he should not, perhaps the boy should be tried at something else. There is a great economic waste in the entrance of many boys to a trade.

I have not heard any one here who spoke of anything else but the "tryout" period at the beginning, the effort to always get the right kind of men. I have not heard of any one who had the luck, except the employment expert who was mentioned,

who had the luck to pick out the first fifty applicants, the first fifty who stayed on the job for the rest of their lives. How many people really do stay? I believe we are safe in saying that the chances are fully one per cent. better if the preliminary try-out is made in the school than if the boy comes up and tries out just because he happened to pass the machine shop on his way to some place. I can not tell you how it is going to work out. Maybe we can say more about it in a year or so.

A DELEGATE: We have not heard anything here about the application of vocational guidance after the selection had been made, and when the question is asked how many have remained in the industry after they have been selected, I think we should consider what has been done for them after the selection has been made. You may have an expert select your people, but if you do not apply the other phase of the vocational guidance movement, you cannot secure the best results. To my mind there is more work which will have to be done after the selection has been made, or you will not hold your men.

The thing we are most concerned with in the industry, outside department heads pass in review, has an added advantage in that it stimulates the interest of these department heads, and your department heads become your teaching force, and so when they start to develop the staff, as one of the gentlemen has said, they become interested in the men continuously.

THE CHAIRMAN: You get a new attitude.

A DELEGATE: I want to say that perhaps we are worrying too much about this matter of vocational guidance. One of our speakers just said that the boys change place about three times a year, or something like that, in New England they change of the boy who represents probably one per cent. of the employes, is what are you going to do to hold the rest of the men, where you have a turn-over of two hundred to four hundred per cent?

As to the matter of vocational guidance, I think it should consist not merely in guiding the boy, but guiding the men in charge of the boys, as to a knowledge of the boy and a knowledge of what the boy is doing. The job analysis is a most essential part of this problem, and in some respects it is the most difficult part of the problem.

A DELEGATE: A supervised tryout, where many different de-

seven times a year, and part of that is to get a vacation. The boys in the shops do not get a vacation in New England and they throw up their jobs and get another job, and it gives them an opportunity to try out various industries. I do not think we should be too much troubled about the boy who gets into the wrong job once out of his four or seven times a year. He may strike the right one by a process of natural selection.

I know there is a certain amount of criticism which comes down upon us for guiding boys into vocations. I feel that myself, because I had to run a trade school and take boys at fourteen, and we were told we were hardly anything less than criminal. I do not remember the punishment suggested, something like burning in oil, for taking these boys and guiding them into various trades. I do not think that is at all troublesome.

Some one was speaking on this same line, and I set down a list of the boys I have taken recently from this same trade school group and put into our own establishment, because they were capable sort of chaps. One was graduated as a pattern maker, an extremely good up-to-date pattern maker. He worked at one of our shops and got the top journeyman's wage paid there. We hired him two or three months ago and made him a foreman in our abrasive mill where we perform the operations of milling that are performed in the mining region in Colorado, something pattern making had no connection with at all, and he made good.

Another fellow graduated from the school as a machinist, and we put him into our efficiency department where he is making time studies and doing work of that kind for men who are grinding wheels.

Another graduate is a machinist, and he is my chief interviewer in the employment department, selecting men, most of them, of course, much older than himself, for positions in making grinding wheels, and he has very little to do with the machinist industry.

Another graduate is a draftsman, and we placed him in our planning department where he grouped the work through the different departments of the shop, and in that way relieving the foremen, putting the distribution of work amongst the various men.

All of these men are making good in work which is entirely

different from that for which they were specifically trained, but these chaps had shown ability, and I believe—I do not know that any one else will agree with me—that if a man has a little more than the average ability he can make a good deal more of a success of anything that he will put his will into and where he has a little bit more than the ordinary wish to make good.

THE CHAIRMAN: In other words, vocational guidance is going to establish our confidence in the universality of human nature.

A DELEGATE: We all agree as to the waste in the turnover in an industry, but is it not the idea of a number of us that the main responsibility for us in industry is to see to it that every job has educational value running through it, rather than to be concerned that a person does not stay everlastingly in a particular job.

A DELEGATE: This may not be just on the point of vocational guidance in the public schools or in the job, but our Dr. Hamerschlag worked out a problem of this kind in our department which we call the machinist's instruction department, and I will go through what we do,—we have a trade bureau which makes mouldings and forgings and general machine shop work. The students have a course of three years, and take so much each year of this work. Last year they had something definite, and made up machine patterns, or something that we specialized along, but all the time taking the essentials. I do not know that any of the boys we have graduated have remained in just that particular line. For example, some of the young men who have graduated as machinists have become salesmen, or they are managers, or assistant managers, or they are foremen, and so on. That is the point of a thorough training, to guide them along specific lines. I think one of the best managers of a foundry I ever knew was a graduate of the pattern department, and so that is the way it goes. If you get sufficient skill and continuity of work on machine construction, the thoroughness of effort in that direction, and then they are fitted for positions in that line or any other line, if they care to branch out.

Of course, the boys when we take them are young men who have had a year in high school, but perhaps only reach the eighth grade, and they have had five or six years in the industry. In the main it is the same, but it is a step higher. These men,

some of them go into such professions as that of engineer, or electrical equipment construction, power machinery operation, etc., aided by the diversified work they have gotten in the plant.

A DELEGATE: Training boys in methods of thoroughness is the great thing. The use of tools is incidental.

A DELEGATE: I want to add a word, and that is coming to a higher level of education or enrichment. As I have talked with my various classmates we have compared notes, and we have often remarked how many men had followed the profession they were considering following when they graduated from college, and I think it would be a fair statement to make that at least seventy-five per cent. of these men have changed their profession, have changed their business since they left college.

THE CHAIRMAN: How many had a definite idea of what they wanted to do when they left college?

A DELEGATE: I think not very many.

THE CHAIRMAN: Can you say they changed their plans?

A DELEGATE: They may have had an idea. They had an idea. Of course, I am groping around myself now. I started out to be an engineer, was going to concentrate on engineering, but I have gone further than that, and I think it is a case where you have got to help the boy, not only in getting him into a trade when he leaves public school, but help him find himself after he has gotten into the trade.

A DELEGATE: Dr. Meyer, of this school, had an article in the Educational Review in September of last year showing a consensus of the graduates of the University of Minnesota and less than twenty-five per cent. changed. They went to the college having chosen their vocation, and less than twenty-five per cent. changed.

A DELEGATE: In how long a time?

A DELEGATE: That was a college census. While he was there he wrote this thesis.

A DELEGATE: I will add that in selecting college trained men, we do not care what kind of training they have had. A college training merely shows the follow's interest.' If he has not been well trained, and has capacity, we will train him when he comes to us. If he comes to us, or goes to the steel mill, is simply a matter from his point of view which line of work he would like to follow. The training is the most interesting factor.

THE CHAIRMAN: You want him trained in an engineer's course?

A DELEGATE: Yes.

THE CHAIRMAN: Fundamentally the thing I have in mind in reference to this thought is that I see a very marked increase of interest from the two-fold point of view, namely, to think more carefully as to just what a human being means—what does that child, and what does that man or woman really stand for? When you stop to think of it, if the work had the right grip with reference to the greatness of human beings, it would not have been so easy to bring on the world's war. Take that idea all through. When you think more carefully in terms of human worth you find you are obliged to think on the other side—"What kind of a place have I to offer that individual?" And there comes in the whole readjustment and organization of industry.

I can tell you as a result of a trip I took through the country this year that men are thinking very gravely on this subject, compared with their thought and attitude as to these problems only two years ago. They are very careful about the thought and the publicity that is going out with reference to what they are offering. If I felt at liberty to do so, I could relate some interesting experiences. In other words, what has happened is, we are having our attention so changed that we are thinking intensely with reference to readjustments in education and in industry, and that is what we want, and it all settles around the fundamental idea—"What is there in the man to go after and how shall we get it?" Hobson, the writer, has helped me more than any other one influence in his discussion of organization and work in the book entitled "Work and Wealth." In that book he says that the greatest single source of waste in this country is due to ignorance regarding human talents and ignorance regarding working.

The people were entirely right in saying this morning that the big problem is to get that conception in the minds of the men responsible for the beginning of industry. I will relate one experience I had in the office of a vice-president. I was told by a man who had been through the training course of a gentleman who has been here to-day that he wished very much I might see the vice-president of his organization. I said—"What excuse have I, what reason have I, for seeing him?" He replied, "This

human interpretation idea. I wish we could get it up to him. I wish you could explain that to him and put emphasis upon it. He may only give you three minutes, but he will treat you courteously, but do not feel badly if you do not have more than three minutes." I went into the office of the vice-president and he was smoking a delightful cigar. There was a careful approach at first, and I was not invited to take a chair, and his attitude was—"I wonder what he wants? What is up his sleeve?" In a moment I was able to connect up with some work that the man was doing in his corporation and he asked me to take a chair. I remained fifty minutes. He told me—"When you understand it the right way, the only problem in business is the problem of human relations." He also said—"I was instrumental in bringing together one hundred and fifty men. I went to them and told them facts, and gave them facts, and by one or two technical questions I discovered what the facts were, and they were that these men were primarily responsible for the condition in industry, and it was for them to solve that condition." He further said—"You are unfortunate in coming around at a time when business is so prosperous, and we are so absorbed in production that we can not give you any attention."

There is the problem you presented this morning, and I have had two men to-day here ask me very seriously if I could tell them of ways of getting these ideas up to their chiefs, because they say that just as soon as the matter can be put in the right way the chiefs will act, and that is the big problem to be tackled next, without doubt.

That is a very difficult problem, and yet it is not anything but a psychological problem—it is an individual problem in one place and another. I would like to leave this thought with you, if out of fifty men, which I have been told is probably true, there are forty-eight ready for these interpretations of responsibility, if these men will get together and thresh this matter out, and form some idea about it, and take it to the man above, I am sure the man above will take heed and pass it up to his chief. For one individual to go to his chief is apt to get him in wrong. If forty-five or forty-eight or fifty do it, they will make an impression, and the chief will give heed to it.

A DELEGATE: Is it the ideal that the industrial opportunity which offers to each employee the largest proportion and oppor-

tunity for his personal development is the best form of industry—will that result in the highest group of efficiency of the whole organization?

THE CHAIRMAN: Yes.

A DELEGATE: That is the ideal we are following, and I would like to know what your ideal is there? As I understand it, it is that what is best for the man is best for the organization?

THE CHAIRMAN: It should not be stated that way, because all through life the individual must be sacrificed for the welfare of the group. I make great sacrifices for the sake of my children. We make great sacrifices for the community and State, and in the largest idea along that line we offer our lives for our country. The group is larger than the individual and the organization is larger than the individual in that sense, but the individual must be followed up as the unit out of which you are to get the organization fitness, the individual must be fitted for his job and also for the organization group. The difficulty is you have some brilliant men, able and strong, and they stand and block the way with reference to large co-operative development. No man should be permitted to block the way, no individual should be permitted to block the group, in that way, and that is what is being done in a number of instances. I know of cases where progress is being held up in the largest organizations because of the so-called brilliancy of one individual who does not co-operate. The two must tie up together in a general way.

A DELEGATE: The conclusion I have reached as to the way in which to conduct this vocational guidance is to help the fellow to what he wishes most to do, so long as while following that he does not interfere with the progress of his fellow employee.

THE CHAIRMAN: I thank you very much, ladies and gentlemen, for your attendance at this meeting.

The meeting then adjourned.

COMMITTEE ON ADVERTISING, SELLING AND DISTRIBUTION SCHOOLS

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MR. W. W. KINCAID
THE SPIRELLA COMPANY
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MR. H. G. CARNELL
THE NATIONAL CASH REGISTER COMPANY
Dayton, Ohio

WEDNESDAY—AFTERNOON SESSION.

ADVERTISING, SELLING AND DISTRIBUTION SCHOOLS.

WEDNESDAY AFTERNOON, MAY 31ST, 1916.

VICE-PRESIDENT HERBERT J. TILY, *Presiding.*

THE CHAIRMAN: The first business this afternoon will be the report of the Committee on Advertising, Selling and Distribution Schools, which will be presented by the Chairman of the Committee, Dr. Lee Galloway. I am sure that Dr. Galloway needs no introduction to us, and we will proceed with his review of the report and then with the discussion.

DR. LEE GALLOWAY: Mr. Chairman and Gentlemen: I am certain that the subject of selling, of salesmanship, advertising and marketing in general is not a subject that is of less interest to men in a corporation school movement than the engineering side of it. In fact, I think if we look on the subject of selling, marketing and advertising as a whole, and compare it with the subject of production, we might call it the magnetic side of industry, that is, the side that draws on all our productive processes.

In this report we are to discuss this afternoon, you will find no attempt to draw any fine spun theory. It is our idea to present a suggestive outline. It was not intended either to make it a final or case-hardened outline, but more in the way of a suggestive serial which might be used in connection with selling schools. An effort is made to depict what is being done in different lines of businesses, not with any attempt to theorize, but simply to give some demonstration of the methods followed and of the material used in their work. I think it might be well for us to see where the line of cleavage lies in regard to these subjects we are treating of, because I find there is some little confusion as to what is meant by some of the titles of selling, advertising and distribution.

First, let us look a little farther than at just to the title, and see what the subjects are that are being treated in the whole scheme of corporation school education. We have production

and then we have distribution, the two big fields. Between these lie another field, which is, I think, very aptly named, when we call it "facilitating activities." Production deals with materials and with machines and tools and with the men, of course. Distribution, on the other side, has to do with the selling and the advertising and the marketing methods involved. In order to facilitate these two great fundamental functions of economics, we have the facilitating activities, of which we have accounting, the various methods of keeping stores, the shipping, and the receiving of goods, etc., and all the forms and systems which come in connection with them, which are in their nature facilitating activities. So, we have our engineering studies, the apprenticeship schools which are more closely associated with that line than with the other, on the one side of production; and then we have the facilitating activities—we have our accounting systems, brought out in schemes of educational activity, by our so-called office work schools, and then, on the other hand, we have the selling activities, which in some rudimentary form are being taught to salesmen in nearly every organization.

Now, nearly every organization, as you will see from the present report, has some sort of selling school, although it is not always so named. There are a number of activities, for instance, which are really educational in their nature, although not educational in the sense that they have been formed into schemes according to any laws of pedagogical presentation. It is meant to give information, sometimes to enthuse men, oftentimes going further and giving information upon public policy and kinds of service, and although it has not the form it may be said to be educational in its nature. For instance, every salesman is familiar with the follow-up he receives every day, or week, which in a sense is educational because it attempts to make him more enthusiastic and to give him pointers and so help him arrange his territory, point out prospects, etc. Then there are the bulletins and house organs which are continually coming out. Also the men are called in every year, or perhaps oftener, and put through a short course of instruction of a few days, or a few weeks at the home factory, ranging all the way from a "trip through the shop" to an organized effort to give them several months' systematic instruction. Between these two points we have all shades of methods.

This report has not attempted to go into the field of advertising, because the report that was made last year by this Committee, of which Mr. Tipper was then the Chairman, was quite a comprehensive one so far as the outlines were concerned. Also, we have not gone into the marketing side in this report to any great extent. We felt it best to confine ourselves to one particular phase, to selling, and so you will notice that the selling processes form the basis of this report. We have taken the salesman as the unit here, and formulated the method of instruction from his point of view. We might have taken the point of view of the market, or we might have taken the point of view of the prospect, or, perhaps, of the manufacturer, but we have not, we have taken that of the salesman and related these other important factors involved in selling and the distribution of the product to the central figure in the process—the salesman.

You will notice that the outline has various sub-divisions, and in a way this might be suggestive to the teacher as it has been tried out from a pedagogical point of view. The divisions, themselves, would probably cover material for an hour or two hours' discussion of classroom work for the classes in salesmanship.

It was not intended that this program as presented here would be adopted by any concern *in toto*. Some concerns might feel it advisable to emphasize some particular point, and hence, they would spend a week upon it while others might spend a day or two days. For example, take this section on the marketing process, some instructors might not want to spend more than fifteen or twenty minutes upon it while others might want a week. It depends on the product and the methods of selling, etc.

There is one point I would like to touch on, which is not covered in the outlines, and that is in connection with a new phase of selling, that, namely, pertaining to agents. In the field of passenger transportation, for instance, you will not find any very well organized method of instruction in selling. In the traffic department it is quite well organized, but when you come to the selling of passenger tickets, etc., you will not find much of an organized effort there to train the men in the selling of service in that line.

I am inclined to think, sometimes, that the commercial point of view, so far as the salesmanship and the marketing of goods,

etc., are concerned, is not given very much attention until competition strikes an industry pretty hard.

For instance, take the gas industry of a few years ago. There was an idea that it was pretty much of a closed industry, a monopoly, and that it was not necessary to go out and try to sell the gas, all that was necessary was to have an office and tell the customers of the gas companies that they could pay their bills at certain times, and get certain discounts on prompt payment.

But with the coming of competition, we find that the gas companies have formed an entirely new department in their business, and they call it the new business department. That new business department is nothing more than a center about which selling methods have been developed, and now the most active part of any gas company's business is the new business department. That came as the result of competition which has said—"You must go out and sell appliances and show the value of gas, and prove to the community that gas is not something that vitiates the atmosphere, because you are burning it in a room." The gas companies were called upon to dispel many of the fallacies which have grown up about the product.

Take it in the railroad business—much in the same way competition upon the traffic side, perhaps more so than on the passenger side, has caused the railroad companies to introduce new methods. We find the traffic men have organizations which are pretty well developed, but so far as the passenger service is concerned, the selling of tickets and selling of transportation, you hardly hear anything about it. One gentleman said that when you enter a railroad station, the first thing you meet is a porthole covered with bars and you buy a ticket through it. I think that some roads are already beginning to think of the selling possibilities along that line, and are putting the ticket men out where they can touch elbows with the public. There is nothing particularly secret about the business of a ticket agent that I know of, and I do not think there is anything particularly sacred about the person back of the bars of a porthole. A porthole suggests war, and war suggests opposition and I do not believe that this is the suggestion which railroads desire to emphasize to-day. I mention this simply because we are growing more and more to appreciate the necessity of method in organiz-

ing our selling force, organizing the men, organizing the material and establishing an environment which would be given to them as the basis for their selling activities.

In throwing the paper open for discussion, I hope you will all have some point of view to express—keeping in mind the purpose of this organization as a whole. As I see it, we have here some very big factors, we have the man, we have the money, and we have an ideal, a goal toward which to work.

We have already had considerable discussion about the man as an individual, and we have had the point of view of the ideal expressed, but The National Association of Corporation Schools has something distinctive in it which seems to me to make it different from every other organization of an educational nature, in that we have the particular point of view of making the employee efficient, so that he can produce more money for the corporation. I mean good, clean, cold, hard, purified, sterilized cash, made for the corporation and to make it because of greater business efficiency.

To be sure all the men who are here, as I know from personal acquaintance with you all, are men who have a social philosophy, an ideal of service, and you work on that as a fundamental. I do not think there is a man here who has not the man in his educational perspective, who does not feel that this is what he is interested in, and that is as it should be. We know that we would fail if we did not have these two goals, but we will fail, in so far as the Association is concerned, if we do not reach that important element of making education practical in the sense that it pays. We must show it to the managers and the men at the head so they will see that it does pay in that connection.

It is more fitting perhaps that we mention the commercial point of view since we are dealing with salesmanship than it would be for the apprenticeship committee which is rather concerned with the side of production, where conservatism has always prevailed.

We have not attempted in our report to give much on the side of retail salesmanship, because that will come in the next paper after this, and naturally fits in closely with this.

REPORT OF COMMITTEE ON ADVERTISING, SELLING AND DISTRIBUTION SCHOOLS

The purpose of this report is twofold: 1, to cover the whole field of salesmanship in such a way that the manufacturer, the wholesaler or the retailer may find suggestions for the development of his own courses of instruction; 2, to present a few typical methods of instructing salesmen as they are now carried out.

Questionnaires which were sent out by this Committee and printed in previous reports of the Association, show that there are few organized schools of instruction. However, there are many concerns which attempt to instruct their salesmen without any well-defined plan. These methods range from a casual trip through the factory in which the salesmen are given a bird's-eye view of the plant and its processes to a few weeks' study of the processes and policies of the company combined with a continuous bombardment of literature sent out from the agencies to the men in the field.

The Committee found it impossible to take any one of these courses and use it as a model, for each business has peculiarities which necessitate certain portions of the work to be emphasized to the exclusion of elements which from their point of view are unimportant. Accordingly, the Committee has prepared an outline which, while it focuses upon the specific subject of salesmanship, brings within its range the allied subjects of advertising, market distribution and merchandising.

Having circumscribed the field to be covered, the Committee set to work to determine the basic features which would present themselves in any organization wishing to establish a corporation school of salesmanship. The following were thought to cover in a general way these features:

1. The nature of selling.
2. Its economic bearing.
3. The relation to business success.

4. Methods of instruction.
5. The instructors.
6. Programmes of instruction.
7. Organizing a school of instruction.
8. Such experiences of well-known firms as would illustrate some of the foregoing features.

The Committee realizes that there are other committees, such as the one on retail selling, which will report in greater detail upon certain features of the work above mentioned. The sections here included are used to round out the scheme as laid down by the Executive Committee in its instructions to our Committee. In reading this report, one caution should be observed, namely, that the outline as here given is not intended to be adopted as a whole by any one corporation. As has been suggested above, some concerns will emphasize one thing and others an entirely different feature in their selling instruction. For example, the section on marketing may well be given careful consideration by a high-grade specialty house, whereas in some other lines of business, perhaps a fifteen-minute talk on the subject of marketing would cover all that would be necessary.

LEE GALLOWAY, *Chairman.*

SALESMANSHIP

A. Basis of Outline

I. Purpose:

To furnish the basis of a course of instruction in the art of salesmanship for corporations, manufacturers, wholesalers and retailers.

1. Travelers.
2. Counter and floor men.
3. Selling agents of various kinds.

II. Field covered:

1. Salesmanship.
2. Allied subjects.
 - (a) Advertising.
 - (b) Market distribution.
 - (c) Merchandising (buying, etc.).

III. Essential Features:

1. Nature of selling.
2. Economic bearing.
3. Relation to business success.
4. Methods of instruction.
5. Instructors.
6. Sample program of instruction.
7. Experiences.
8. Organizing a school of instruction.

I. Purpose:

To furnish the basis of a course of instruction on the art of salesmanship for members, whether manufacturers, wholesalers or retailers.

For 1. Travelers.

- (a) Specialty.
- (b) Staple.
2. Counter or floor men.
3. Selling agents of various kinds.

II. Organizing a school of instruction:

1. Text-books and collateral reading.
2. Instructors.
 - 1, actual experience.
 - 2, a trained mind.
 - 3, the teacher's attitude.
3. Methods of instruction.

III. Salesmanship: Its place in the field of business:

1. Relation to other phases of business.
2. Salesman's dignified work.
3. Opportunities in salesmanship.
4. Importance of selling knowledge to every man in business.
5. Selling as a stepping-stone to sales management and other executive positions.
6. What the salesman has an opportunity to learn.
7. The "Salesmen are born, not made" fallacy refuted.

IV. Bird's-eye view of the whole field of marketing:

1. Three phases of selling.
2. Trade factors, trade channels and trade relations.
 - (1) Manufacturers' selling and advertising problems.
 - (2) Wholesalers' problems.
 - (3) Retailers' problems.
 - (4) The chain store.
3. The product, the market, and reaching the market.
4. Merchandising (buying).
- 4a. Price maintenance.
5. Relation of personal selling to this field.

V. Divisions of selling:

Retail selling behind the counter.
 Wholesale staple or specialty selling.
 Where buyer seeks seller and vice versa.
 Single versus repeated sales.
 Staple selling.
 Specialties selling.
 Specialties sometimes gradually become staples.
 The branded staple and its selling problems.

VI. Definition of a sale.

VII. Factors in a sale.

1. The buyer.
2. The seller.
3. The product.

VIII. The selling process:

Developments in a sale:

1. Attention.
2. Interest.
3. Desire.
4. Confidence.
5. Close.

IX. The selling process (continued) :

Preliminary to the interview :

1. Studying the prospect.
2. Gathering the information.
3. Getting in to see the buyer.
4. The actual approach.

X. The selling process (continued) :

The interview :

1. Attention—its nature, methods of securing it, the opening talk.
2. Attention to a varied line.
3. Trunk lines and sample rooms.
4. Attention in retail selling.
5. Arranging the sample display.

XI. The selling process (continued) :

Interest :

1. The demonstration.
2. Handling interruptions.

XII. The selling process (continued) :

The interview :

1. Handling objections.
 - (1) Antagonism, vs. a friendly get-together.
 - (2) Unreasoned inhibitions.
 - (3) Discussing price.
 - (4) Discussing competitors' goods.
 - (5) Minimizing objections.
 - (6) Anticipating objections.

XIII. The selling process (continued) :

The interview :

1. Desire.
- Indications.

XIV. The selling process (continued) :

The interview :

1. Confidence.
- A separate development.

XV. The selling process (continued) :

The interview :

1. The close.

- (1) The crux of all salesmanship.
- (2) Expecting him to buy.
- (3) Make decisions and don't expect them.
- (4) Closing is not coercing, over-selling, nor selling a man something he doesn't want ; it is overcoming the habit of indecision.
- (5) Courage.
- (6) Positive suggestion.
- (7) "Decision on a minor point" principle.
- (8) "Writing out the order" close.
- (9) Closing the retail sale.
- (10) Mechanics of closing.

XVI. The selling process (continued) :

1. Persistence of the right kind.
2. Avoidance of ill humor.
3. Reserve talk and how to use it.
4. The "bill starter."
5. Getting the price.
6. Emphasizing service and quality.
7. "Think it over."
8. Calling back.

XVII. After the sale :

1. Furnishing buyer helpful details.
2. Right impression at leaving.
3. Securing co-operation and indorsement.

XVIII. Human appeals that sell :

1. Scientific method used, but selling not a coldly scientific process—a friendly, red-blooded, man-to-man process, where personality and sincerity count.
2. Motives that may be appealed to.
3. Two avenues of appeal.
 - (1) Logic—to reason—intellect.
 - (2) Word pictures—to imagination—emotions.

XX. Essential qualifications of the salesman—the development of personality, character and calibre.

1. Thought, study and work ; native ability ; health ; preparedness ; ambition and application ; observation ; tact ; concentration ; courage ; honesty ; confidence ; enthusiasm ; loyalty ; optimism ; imagination ; education ; voice and appearance ; personality ; self-analysis and improvement.

XXI. Salesman's duties and responsibilities :

1. Organizing a territory.
2. Planning the personal selling campaign.
3. Securing and giving co-operation to customers and house
4. Planning the day's work.
5. Salesman's time and its use.

XXII. Planning the presentation :

1. Picking the selling points.
2. Planning the selling talk.
3. Planning the demonstration.
4. Planning the selling equipment.

XXIII. Retail selling :

1. Why the manufacturer is interested.
2. The Wooltex course—same principles apply, only methods differ.
3. Instruction in the store methods, store system and store policy.
4. Vocabulary and address.
5. Knowledge of line.
6. Showing the line.
7. Focusing attention on one article.
8. Closing the sale on that article.

XXIV. Attracting buyer's attention to goods other than those for which she came :

1. Handling the "looker" so as to turn her into a buyer.
2. Building a clientele.

XXV. Selling in different lines (as examples):

1. Selling machinery.
 2. Selling advertising agency service.
 3. Selling office filing equipment.
- All specialties.

The following outlines of the work as carried on in the Remington Typewriter Company, the American Optical Company, the Spirella Company, and the Harvard School of Business Administration are given as types of salesmanship courses which emphasize different elements in the presentation of the material.

In the report of the Remington Typewriter Company, it will be noted that the methods of presentation and the demonstration as connected with the sale are emphasized. Such a report should be very valuable and suggestive to a corporation which is about to start a school of salesmanship for its employees. The corporation would find in the description of the Remington Company organization and in the methods of gathering the material for the instruction some concrete information which would suggest methods for them to follow.

THE REMINGTON TYPEWRITER COMPANY ORGANIZATION

There are fifty-seven branch offices in the Remington Typewriter Company Domestic Organization. Each one is in charge of a manager, who is responsible for the general conduct of his office. He is intrusted with the selection and management of his sales force and clerical staff. He is the intermediary between the Home Office and his salesmen. He promulgates the policies of the Executive Offices as well as his own. Thus we have in each branch office in effect a representative of the Home Office, through whom we reach our salesmen and who puts into execution the plans developed at the Home Office.

In the past we have largely depended upon the individual enthusiasm and initiative of each manager to obtain the best possible results from any educational or inspirational campaign issuing from the Home Office. We have not been immediately cognizant of the benefit derived except in the way of generally increased sales.

Educational Course.

We have realized, however, that a more systematic effort must be made to raise the average producing power of our salesmen. To this end an educational course has been planned along well-defined lines, determined by our experience and the best co-operation of our Sales Department heads, assisted also by the opinions of Branch Office Managers who are asked to contribute their methods of handling the problems which arise most frequently in the selling of typewriters.

Co-operation—Branch Managers.

We ask, say, ten managers how they and their salesmen demonstrate the column selector; another group of ten men to tell how to demonstrate the decimal tabulator; another group the back spacer. From all of these opinions we are able to cover the fields of the column selector, decimal tabulator and back spacer thoroughly, and be certain that we are not omitting any points which will be of interest or benefit to the salesmen.

Classification of Salesmen.

Our salesmen may be classified as specialty men, and they are travelers in the sense that they go to the customer instead of the customer coming to us.

Sales Manual.

We are using our own sales manual, supplemented by collateral reading. This sales manual is composed of a number of pamphlets, each complete in itself, each describing some machine or enlarging upon some feature of our business, bearing on the selling end, which salesmen must know.

We now have nine pamphlets and more are being prepared. We favor pamphlets for the following reasons:

The sales manual is elastic.

Pamphlets which require revision or change are easily recalled.

Additions are made as desired.

The salesman is not deluged with a mass of material at one time.

Pamphlets can be fed to him at regular intervals or as fast as they can be digested.

Binder.

Each salesman is given a binder. This binder is numbered and in our records at the Home Office a salesman is charged with a certain binder. Each pamphlet sent to him has a similar number and only the pamphlets intended for that binder are placed therein. Receipts are signed for binder and pamphlets as issued. They remain the property of the company and must be turned in to the branch office when the salesman severs his connection with the House. The size of the binder is $7\frac{1}{2} \times 10\frac{1}{2}$ inches.

Arrangement.

The following synopsis of the contents of the pamphlet entitled "The Remington Adding and Subtracting Typewriter" is typical of the general arrangement of other pamphlets:

Typewriter Evolution. Adding Machine Evolution. The Combined Machine. Requirements. Compactness. Durability. Accuracy. Light Weight. Ease of Operation. Capacity. Scope. The Prospect's Attitude. Planning the Sale. Demonstration. Simplicity. Smoothness. Completeness. Mechanical Demonstration. Prospect's Questions. Result of Demonstration. Securing the Order. Examination. Sale Lost. Training the Operator. Selling Suggestions. Salesman's Argument.

Style.

The following extract is typical of the general style of pamphlets:

"The second step in the sale of the Adding and Subtracting Typewriter is the demonstration. By it you are going to create in the prospect's mind one of three impressions: First, the desire to buy. Second, doubt as to the advisability of buying. Third, disinclination to buy. Which impression will prevail will depend upon three characteristics of your demonstration: simplicity, smoothness, completeness.

"By simplicity we mean showing in a direct way that the machine adds and subtracts. Use a blank sheet, not a billhead for this. The reason for using a blank sheet is because no readjustment of tabulator stops or marginal stops will be necessary. If the prospect suggests that you use his forms, say, 'I have a few general operating features which I wish to

show you first. I shall be glad to use your forms after I have explained the principles of my machine to you.'

"Smoothness is the result of a prearranged plan of operation and the necessary practice to enable you to go through a demonstration without hesitation or confusion. Practice it so many times that it is easy for you; then it will appear simple to the prospect." Etc.

Purpose.

Our sales pamphlets aim to give a complete knowledge of our product from the selling standpoint. Some feature of our machine may mean increased operating facility. This interests the typist, because it makes her work easier and enables her to accomplish more. It interests the buyer because it means a saving of time and money. To explain it intelligently, a salesman must know it thoroughly

Example. "The Remington type bar has always been a special feature of Remington construction. To secure good alignment there must be, first, a steady printing point; second, a rigid type bar held firmly at the pivotal point. Remington type bars are drop forged, heavy at the pivotal point, tapering to the end, holding the type. They are hung in a double row. The object of this is to give room for the wide pivots necessary to provide rigidity and freedom of action.

"On the end of each type bar is a projection which prevents the face of the type striking the back of the bars. If one key is held while another is struck this projection fits in the space between the two type faces. On account of the tapering shape of the projection, battering of the type faces is prevented if the type are made to collide through irregular operation." Etc.

Reaching the Buyer.

We endeavor to tell how to reach the buyer, which with us does not mean the purchasing agent. Much of this, however, must be left to the ingenuity of the salesman. The most we can do for him is to assist him in preparing an opening talk which will enlist attention after the audience is secured.

Example. "The first step in the sale of a Remington Adding Typewriter is to find out whether or not a concern

can use it to advantage. The best way to do this is to secure copies of bills, statements and any other forms used in that office. Ascertain how many bills are sent out each day; how they come to the bill clerk; how many items to each bill. If it is possible, see what the clerks are doing and how they are doing it. Study the situation carefully and determine where and how the combined machine will effect a saving.

"Avoid talking your machine until you are in a position to show what it will do in each case. Figure out how much time it will save and what this will mean in economy of salaries and equipment. Now you are ready to make your attempt to interest the prospect in your machine." Etc.

Demonstrations.

We outline set demonstrations for our machines. These demonstrations bring out every point which will show facility of operation. With a set demonstration the customer can interrupt at any point with questions and the salesman is not confused or at a loss to know where to continue when the questions are answered.

In the demonstration of the Remington Standard Typewriter we take up the following points in order:

Paper Guides,	Marginal Stops,
Paper Feed,	Side Guides,
Variable Line Spacer,	Feed Roll Release,
Line Gauge,	Line Spacer,
Carriage,	Release Keys,
Paper Shelf,	Column Selectors,
Reversible Rack,	Governor,
Type Bar,	Ribbon Movement,
Back Spacer,	Shift Keys,
Tabulator,	End Guides.

We try to create business by showing salesmen how certain features of office work can be accomplished on our machines better than they have ever been done before. We furnish forms showing the old way and our way. This teaches the application of the typewriter to different kinds of work found in a business office and enables the salesman to choose the most effective selling talk.

Daily Entry Itemized Statement

Equipment.

Two No. 11 "A" Pica Remington Adding and Subtracting Typewriters. Each machine equipped with two seven-wheel standard money totalizers.

Old Method.

Charge tickets were sent to the office the same day the sales were made. The following day the charge tickets were sorted alphabetically and entered on Card-ledgers by bookkeepers.

When bookkeepers finished posting charges they listed on an adding machine, and the total was posted against each customer's account for the day, to secure a total of their postings. The totals of each bookkeeper's postings, added together, should balance with the total of charge tickets secured when the charges were added according to "Sales Departments."

When bookkeepers obtained their balance, the charge tickets were passed along to the billing operators using ordinary typewriters. When a billing operator finished copying from a charge ticket to customer's statement, she mentally added the amounts she had entered on the statement, and if the total of the amounts entered on the statement agreed with the total on the charge ticket from which she had copied, the operator knew she copied correctly from the charge to the statement." Etc.

Present Method.

Charge tickets are received and handled in the same manner under the present method as they were under the old method by the bookkeepers. The posting on statements is started on the first day of the month.

Billing operators copy from charge tickets to customer's statements. The amounts entered on each statement are added in totalizer No. 1. When billing operator has finished copying from a charge ticket to statement, she compares the total shown in Totalizer No. 1 with the total on the ticket from which she copied it; if both totals agree, MECHANICAL PROOF is furnished that billing operator has not omitted an item from the statement and that she has entered amounts, as shown on the charge ticket, on the statement, correctly. The total is then written in the "Daily Total" column and added in totalizer No. 2. Totalizer

No. 1 is then moved to the "Debit and Credit Balance to Date" column, cleared and moved back to the "Amount" column. Etc.

Advantages of the Present Method.

- A. Proves mechanically that:
 - 1. No items are omitted in copying from charge tickets to statements.
 - 2. All amounts were entered on statements correctly.
- B. Furnishes the total of billing clerk's postings, the instant the "Daily Total" is entered on the last statement.
- C. 1. Keeps "Debit" and "Credit" postings added to date.
 2. Statements are ready to mail at any time.

Organizing Territory.

We tell salesmen how to go about organizing their territories, how to canvass and how to find possible typewriter buyers.

Example. In the canvass of homes, follow some definite plan of procedure. Doctors, for example, have their offices in their home. A canvass of the business section will not include them. Find out who the doctors are in the territory; ascertain, if possible, who have children. Make your selling talk strong by telling what the typewriter can do for the business and add suggestions of what influence it will be in the home. In the smaller towns, masons, carpenters, painters, have their places of business in their homes. Insurance agents, town clerks, officers of fraternity organizations and clubs are found in their homes. Of course, some of these may have business offices which you have seen in your canvass through the business section, and another call is not necessary. In country and city territories, classified lists, directories, telephone books will suggest prospects. Dun's or Bradstreet's books are excellent as means of ascertaining who can afford to buy typewriters. They also give the names of people who may be located in out-of-the-way places and who, for that reason, would not be visited under ordinary circumstances." Etc.

We impress upon salesmen the desirability of leaving a customer in such frame of mind that he will always be welcomed. We sell supplies as well as typewriters, and we frequently find that a concern not buying typewriters from us will put in supplies.

This is a help to the salesman because he has a reason for calling more frequently than if he were attempting to sell machines only.

Price.

We strive to impress our salesmen with the dignity of price. Our rules of sale plainly outline what he can do, but we try to make his talk convincing to the buyer. Instead of permitting him to run down our competitors' machines, which seems to be the first instinct, we tell him to talk worth from the standpoint of increased production, durability and our service.

Example. "Our machine is fully equipped with time-saving devices, and time saved in operation means much more to the user in a year than the difference of a few dollars in the original cost. He is purchasing the use he can get out of the machine, the ease with which his stenographer can do her work, the quantity and quality of work done, and the service back of the typewriter.

"Our typewriters are built of the very best materials, finished in the best manner. They are the result of forty years of typewriter building.

"The first cost is not the only thing to be considered. The quality of work the machine will do, the manner in which it does it, and the length of time it will continue to do it, determine the true economy of typewriter buying." Etc.

Salesmen's Qualifications.

We are interested in the essential qualifications of the salesman. Our managers select their own salesmen and we impress upon them certain fundamentals, such as suitable age, health, education, appearance, voice, previous employment and references.

Examinations.

A new salesman must study our pamphlets carefully and pass an examination given by the manager. This examination consists of questions covering all parts of our different machines shown in demonstration. Salesmen are required to actually demonstrate machines in accordance with instructions in the pamphlet. He is assisted in learning demonstrations by the manager

and other salesmen in the office. We permit him to do some floor work before going into his territory.

Examinations are given by Home Office representatives personally from time to time. Managers of branch offices also drill their men in salesmen's meetings until each subject is thoroughly covered.

Our present idea is to give this instruction with a minimum of inconvenience to salesmen. They may study when and where they please. We do not take a man off his territory while he is pursuing his course. Questions are prepared by the Home Office covering different points outlined in the Sales Manual. Salesmen are required to answer these, and their answers are sent to the Home Office:

"WAHL ADDING MACHINE

1. What features embodied in Remington Typewriters are of greatest value to the adding machine?
2. What are fundamental typewriter-adding machine requirements?
3. What is the most essential requirement in a typewriter-adding machine? Why? How is it met?
4. By what are the capacity and scope of the machine limited?
5. What is the first step in planning a sale?
6. What are the most common obstacles encountered?
7. What is the most vital advantage in combining the typewriter and adding machine? What thought advanced by you appeals most to the prospect?
8. How do you use the lists of users and uses furnished you from time to time?
9. What are the essential characteristics of a demonstration? What is its purpose?
10. Why is a set demonstration advisable? What negative points are avoided?" Etc.

Special Instruction.

Experts in certain features of office work to which a typewriter can be applied visit offices from time to time, holding salesmen's meetings and giving personal instruction in every feature of such work, practically demonstrating the application of the typewriter to it. Information concerning special sales or

new uses is sent frequently to the branch office manager who gives it out in his own way, or in some cases as directed by us. Proofs of future advertisements are sent to managers and recommendations made as to how to secure the best results from this publicity.

With each copy of a proof goes a letter something like the following:

"When you open the door of a small office, look around. If you see up-to-date office equipment—filing systems, loose-leaf ledgers, etc.—you have found the man to whom the enclosed advertisement is addressed.

"It is a great mistake to think that labor-saving inventions are valuable only to million-dollar corporations. The progressive little fellow is just as keen about time-saving and money-saving as the big one—but the cost of the Remington Adding and Subtracting Typewriter may seem a little stiff to him. He may say, 'This typewriter of yours looks good to me as a billing machine, but I could not afford to buy it for billing alone.'

"Now that is just where you want him.

"Take his office clock as the basis. Put your Remington Adding and Subtracting Typewriter through its paces. Show him how many times a day it can be used on different work. Show how much work it will do; the absolutely accurate work it will do.

"Here is a machine which does all his present typewriter does—and lots besides. If his billing system is not a daily matter, talk listing. Talk the advantage of having an adding machine and a typewriter combined. It can be kept busy every hour of the business day.

"There are as many arguments for the Remington Adding and Subtracting Typewriter as there are uses for it. Big insurance companies or banks often limit this machine to some one specialized work. The small or medium size office uses it throughout the day for many kinds of work. It is 'a whole office force in itself.'

"The message of this advertisement comes down to this:

If your prospect uses but one typewriter, he owes it to himself to look into *the typewriter that lists and foots while it types.*"

Handling objections.

We teach how objections may be handled. We can do this only in a general way, because we cannot foresee what the objections will be. We insist that objections must be disposed of thoroughly when met. After that, proposals for the resumption of business relations may be made.

Duties.

We impress upon a salesman his duties and responsibilities to the House. He is told what is necessary in the way of reports and shown how to make them.

Technical Detail.

Mechanical detail which does not bear directly upon selling is not given. We do not believe in descriptions of processes of manufacture in a technical way. The layman doesn't understand them and they do not add to the desire to buy.

Inspirational Subjects.

We do not touch upon inspirational subjects, except perhaps when we find something written which appeals to us as being particularly good, and then only at long intervals. We find that it is difficult to hold the interest of men actively engaged in selling in such subjects. If we were talking to students who had an unlimited amount of time in which to qualify, some time would be devoted to these subjects.

Our Problem.

Our problem now is how to induce our men to willingly and with the least effort and inconvenience absorb what we offer.

F. E. VAN BUSKIRK.

The report of the Harvard School of Business Administration is suggestive in that it emphasizes the importance of marketing. Few, if any, organizations would go into this subject in the thorough manner which a postgraduate course in business finds it possible to do. Nevertheless, a knowledge of the material which would fall into a course of this kind must be suggestive to the director of a corporation school in helping him to select material in harmony with the principles laid down by the Harvard School.

INSTRUCTION IN ADVERTISING, SALESMANSHIP AND DISTRIBUTION IN THE HARVARD GRADU- ATE SCHOOL OF BUSINESS ADMINISTRATION

Instruction in advertising, salesmanship and distribution in the Graduate School of Business Administration, Harvard University, is given chiefly in the courses in Marketing, Business Statistics, and Business Policy. The subject of Marketing, which is practically synonymous with "distribution" as here used, includes advertising and salesmanship, and at the present time no separate courses in those subjects are given.

The subject is considered to be of such vital importance to business men that all of the regular students in the school are required to take the first-year course in Marketing, whether they are planning to become salesmen, to engage in advertising work, or to enter any other branch of business. The first-year course in Marketing, which thus forms the fundamental basis of the instruction in these subjects, is broad in its scope. It includes a study of the functions, services, and costs of the various types of marketing agencies, brand and trade mark policies, advertising methods and problems, salesmanship, credit problems, and price policies. Each of these topics is discussed in detail, largely through an analysis of specific problems which have arisen in individual business establishments and which are typically representative. The broad scope of this course is especially helpful to students who are later to become salesmen, since it enables them to understand better the place into which they are to fit, and it helps them to appreciate the policies which they must aid in carrying out. Not least it gives them an insight into the peculiar problems of certain types of customers. In the advanced course in Marketing second-year students are given training in the working out of selling and advertising problems for individual business establishments. In Business Policy numerous managerial problems involving marketing methods are discussed. In Business Statistics the following subjects which are directly related to Salesmanship, Advertising and Distribution

are taken up: market analysis, salesmen's reports and sales records, quota systems, statistics used in the selection of advertising mediums, advertising tests and retail store statistics.

BUREAU OF BUSINESS RESEARCH

In addition to the regular instruction in these subjects in the School, we have had some experience in the handling of field agents in the Harvard Bureau of Business Research. While these agents, of course, have nothing to sell, nevertheless in seeking confidential information from retailers they have had to cope with problems very similar to those which confront many salesmen. These agents are selected from the first-year students in the School, and consequently they have already had instruction in Marketing, Accounting and other subjects which are especially helpful for this work. New men are sent out each summer for four months and our task has been similar to that of sending out new salesmen.

Before leaving Cambridge the agents are required to pass an examination upon the accounting system for the trade with which they are to work. If they are to act as field agents in our grocery research they must pass an examination on the Harvard System of Accounts for Retail Grocers.

Moreover, several conferences are held between the members of the staff who are in charge of this research and the agents, in order to explain various points concerning which there are always questions.

The Bureau also provides each field agent with a set of type-written instructions which explain the agent's task, the purpose of this research, the reasons why retailers should co-operate, the confidential character of the work, methods of procedure and answers to the arguments which most commonly occur.

The agents have stated that they have found these instructions very helpful in showing them whereby they could obtain better results. These instructions are revised each year on the basis of latest experience. Definite instructions are also given regarding itinerary, reports, expenses and correspondence. The agents are informed when they begin their work that a record is kept of the results which they obtain and that they are expected to reach a certain quota. The correspondence with agents during

the time they are in the field is strictly individual; we do not have form letters or circulars to send to them.

M. C. COPELAND.

The report submitted by the American Optical Company should be valuable to sales managers or other directors of educational activity of their corporations in suggesting the elements which enter into the selection of the salesmen and the stimulation of their efforts. In this company, these two elements become a part of the organized effort to develop their salesmen through organized instruction.

SELECTION OF SALESMEN

Personality. All our salesmen for domestic markets are Americans. This is an unwritten principle with us, which we have found to be an advantage in our business. In foreign markets we use men who are natives of the principal country they travel in or in which they make their headquarters. All representatives must have a pleasing personality, a refinement in manner, temperate habits, and a character that will stand thorough investigation.

Personal Appearance. We believe that the character of our house, its pre-eminence in the trade coupled with the proven high quality of its products, makes it necessary for it to be represented by men who are careful of their personal appearance. We believe this to be a fundamental principle in good salesmanship, and we are strongly influenced in choosing our representatives by their personal characteristics.

Experience. We give preference to salesmen who have had actual experience in selling or handling the lines that they are required to push. In a business involving a tremendous amount of detail as in the optical line some experience is essential, and if a man can bring experience with him, he is worth more to us in the beginning and much valuable time is saved in instructing him.

Education. We prefer men who possess sufficient education to be able to approach and talk with big business men, and who are sufficiently informed technically to be able to handle at least simple mathematical problems involved in computing such technical goods as lenses, etc.

Ability. An ability to sell and a liking for sales work, we consider necessary. While it may be true that with proper training a salesman can be made out of any material, still we maintain that a man who has a natural ability and inclination will show much more profitable results than the man who has not the same ability.

Energy. Energy and enthusiasm, coupled with a sincere belief in the products he represents, are very desirable and even necessary qualifications for a successful representative of our Company. A man must be able to transmit that same enthusiasm to reluctant buyers and otherwise unemotional customers to get the best possible results.

INSTRUCTION

Factory. Before going on the road a representative must spend a certain amount of time in every factory department in order to become thoroughly familiar with the process of manufacture and the materials used to make the goods, so that he can intelligently explain the matter to customers. He is put in the hands of the foreman of the department, who is required to give him all the information possible, and spend as much time as is necessary with him, and after such instructions to ask leading questions and determine whether he is thoroughly familiar and has mastered all the details. In some departments he is actually required to work at the machines and accomplish certain steps in the manufacture himself where actual demonstration is necessary in customers' offices and shops. The new salesman must spend about half a day every day for from one to four weeks depending on his past experience, and become thoroughly drilled in all our lines.

Office. The rest of his time during the same period is spent in going through the office routine learning such details as the course of an order, the handling of correspondence, the billing, the adjustment of claims, the packing, shipping, etc. He also spends considerable time with the division Sales Managers whose lines he will specialize in. He is then given thorough instructions in regard to the advertising service rendered by the Company, which is very carefully explained in detail by the Advertising Manager.

Sales Conference. At least twice a year domestic salesmen

are required to report to the factory for several days to go over details which they are not sufficiently familiar with. They are instructed in the manufacture, selling and use of new products that have been put out during that time. They discuss any personal matters taken up with them by customers for that purpose.

A sales conference is called once a year when all representatives are required to be present. A regular program of instruction is planned by the foreman of the different manufacturing departments, the members of various office departments, the Sales and Advertising Managers, and so on.

This conference lasts about a week. A report of the details is written up, and copies given to the salesmen to be studied at their leisure. Sample lines are discussed, methods of selling are actually demonstrated before the assembled salesmen, and criticisms and suggestions freely made.

Text Books. We subscribe to certain sales magazines for the use of our salesmen. These magazines are sent direct to the home address of the salesmen. We also offer to loan them books from our very extensive library of sales literature, although no systematic plan of reading is suggested. Some take advantage of this opportunity, others do not.

Sales Manuals. In order that the salesmen may have before them constantly all the sales arguments for the many lines of goods we make we publish from time to time sales manuals giving all the sales arguments, talking points, etc., in detail. This is practically a salesman's bible, not only does it have information about the goods, but it tells them how to sell them. It tells them what is required of them in the way of reports, letters, how to make out orders, special information and so on. It tells them what samples to carry, how to display samples. It gives them information about making out expense accounts and so on.

STIMULATION

Letter Suggestions. For the men on the road and the Branch Office Managers letters of suggestions are frequently written giving them new ideas about old goods and information about new goods, also any especially new arguments that have been thought up about the products or anything of a helpful nature that will mean greater personal efficiency for the salesman and larger sales.

Statistics. Cards of statistics giving quantities purchased by customers on all lines are furnished to the salesmen for use in calling on a customer to show what lines should be emphasized. A letter in advance of the call is sent along giving full information as to unfilled orders, complaints, correspondence, characteristics of buyers and any information that would be useful to the salesmen in obtaining more business. We go to a great expense to prepare these statistics but have found these extremely useful to our representatives.

Bulletins. We issue bulletins several times a week for the purpose of stimulating the salesmen to greater efforts. These bulletins give helpful suggestions, and show the successful work done by other salesmen. They are written in a light vein so as to make easy reading.

Contests. We have tried sales contests, but with not very satisfactory results. Conditions were such with our small sales force that it was not practical or possible to draw very fair comparison between the work of different men, and at least for the present we have abandoned any sort of prizes or contests.

Letters of Encouragement. When men perform very successfully we send them letters of encouragement sometimes signed by the division Sales Managers, sometimes by the General Sales Manager or his assistant and occasionally by different officers of the Company. We believe that occasional praise has a stimulating effect.

O. B. CARSON.

The Spirella Company presents some peculiar conditions which make their experience particularly valuable to firms handling a large number of women employees. A majority of firms making up the N. A. C. S. deal either with the trade or with general agencies who, in turn, place the product in the hands of the consumer and deal in larger units, that is, the individual sale is of large volume. The Spirella Company, Inc., places its product directly with the consumer through corsetieres who are selected, drilled and educated to give expert service along that line. The individual purchase of the consumer in the activities of this Company is a small sum, comparatively. Further, among Association corporations which have given prominence to educational work, particularly scholastic training, men predominate. This statement, of course, does not apply to department stores

or those engaged in a mail order business. Ninety-seven per cent. of Spirella employes are women; at least ninety per cent. of these work in their home localities, and are beyond direct control by the company.

EDUCATIONAL WORK OF THE SPIRELLA COMPANY, INC.

In discussing Spirella's educational work, bear in mind that large numbers of people must be trained by the company. From its inception this company's ideal has been to give to corset wearers the best product it could make, through corsetieres who could give that corset wearer a distinct service not found elsewhere. In passing, let us remark that the ideal of ten or even six years ago has been, in a measure, attained, but the ideal of to-day is still to be reached.

Bearing in mind, then, the character of our business, dealing direct with the consumer, a small individual sale, a recognition of the principle that profits must come from re-orders, that an exceedingly large number of corsetieres must be secured, and that ours is a fluctuating force; it is evident that it is impractical, if not impossible, to get in personal touch with all corsetieres. As a result, our system of education must be elastic, must be general rather than specific, yet must be sufficiently definite to achieve in as large a degree as possible the purpose aimed at. To achieve this end our training must cover the different elements engaged in production and sale. These three elements we can group under the three heads of factory force, office force, and field force.

A fairly successful effort has been made to link the factory force with the consumer through the two media of office force and field force. To illustrate: the effect of imperfect work, defective material or inaccurate measurements, should they pass the inspectors and reach the consumer, is made clear. A dissatisfied consumer is injurious to the entire Spirella interests, and particularly does it affect future factory production so far as that individual is concerned. We have not found it difficult to lead the employe to see this point.

The educational activities of the office force can be roughly classified under three heads: Field organizers, whose business it is to select, appoint and train corsetieres and office managers;

second, correspondents, those who come into immediate contact with corsetieres through the medium of letters; third, clerical force. Organizers, who, in one sense, are the creators of our business, are selected carefully, are given a full explanation of the work required, of their duties, of their responsibilities, and are given various printed forms, pamphlets, and even text-books with which they must become familiar. These organizers are further given a personal drill by some successful and experienced organizer. This drill covers a week to ten days, sometimes two weeks, and is repeated later if the necessity exists.

At the present time, Spirella interests are represented first in the United States, where three offices and factories are maintained; second, in Canada; third, in England; fourth, in Germany. The General Managers of these several divisions have had thorough training in Spirella work and are men who have grown into their several positions. This has given them an insight into and a knowledge of Spirella policies, methods and ideals. These Managers have entire charge of their respective divisions, but the general plan of the campaign, selling, manufacturing, etc., is directed from the Executive Offices.

Correspondents who deal directly with the field force must be thoroughly familiar and in harmony with the general policy of the Company, must study its literature, must be able to answer the various problems which are put up by individual corsetieres. Every effort is made to help them to realize the importance of their job, to give them "the vision," so to speak, to inspire and enthuse them, to bring to them a full realization of the fact that the corsetiere will judge the Company and its product by the character of their work. In our dealings with women we have found that the emotional nature plays an important part. As a result, we seek to develop the personal equation in correspondence. Sympathy, interest, friendly gossip on home affairs find their place freely in our correspondence. One very important factor in the educational work of correspondents is a divisional organization known as a "Managers' Club." This Managers' Club devotes itself entirely to the discussion of questions connected with the work.

The clerical force includes the billers, those who make out orders, keep the files, etc., etc. This force meets from time to time; brief talks are given upon the importance of doing their

work well, of leading them to see that in a perfect whole their work is as important as any. We do not touch particularly upon the specific methods used to bring about this condition in office and factory, because the training of the sales force has been emphasized in the request for information.

We now come to the training of the field force, the corsetieres, bearing in mind the limitations heretofore presented. Corsetieres are selected and appointed by organizers, previously mentioned. The selection of the proper parties, methods of finding them, etc., need not be touched upon here. Having selected a desirable prospect, the first business of the organizer is to *sell her the proposition*, to point out to her what it means, to impress her with the dignity, the honor, the profit, the exclusive nature of her work. Her agreement with the Company is fully explained; the obligations of both parties are fully set forth; the use of Demonstration Models or samples is made clear. She is given specific instructions in corsetry and has specific lessons placed before her for immediate study. The organizer lays a foundation for harmony and co-operation with the House, leaves with her text-books, pamphlets, advertising forms, etc. The organizer goes over this literature with her, marks important paragraphs and gives her specific training by means of established forms. This is done to secure uniformity of procedure throughout the field force.

Upon receipt of her agreement, the corsetiere's specific training begins through the medium of letters prepared to direct her, to help her to solve the problems which present themselves, and to point out to her methods of building up her business. The foundation of her training is based upon our text-book termed "Instructions in Spirella Corsetry." This is a printed book of eighty pages, discussing twenty specific topics, and containing the fundamental principles both of corsetry and of salesmanship.

Among the topics treated are self-organization and organization of work. This, both to put the corsetiere in the proper attitude toward work and to set her to thinking. In the discussion of these subjects, simplicity and clearness of statement are aimed at. Technical terms are avoided. The selling points, or, as we term it, the "Sales Talk," are discussed. In the building of a sale the idea of a square deal is emphasized. There must be mutual benefit. There must be absolute justice given the

purchaser. Sincerity and integrity of thought and of deed are strongly emphasized. To quote therefrom: "Price must be in proportion to merit shown. You cannot hope to make a sale at \$6.00 if you can show the client only \$5.50 worth of merit. Neither is it salesmanship to secure \$7.00 for an article that is priced at \$6.00. In that case you simply defraud the purchaser of \$1.00."

The various merits of our product are brought out. A detailed selling talk is given, starting from a point of common knowledge and leading the prospective client step by step up to the point where she is convinced of the merits shown and of their application to her individual use. The demonstration of the Spirella stay is gone into at length. Starting with this as a foundation for our product, it will be readily seen that we emphasize its importance and present it vigorously, completely and clearly so far as we are able. Additional topics treat of poise, figure types and conditions, development, measurements, selection, and other allied topics simple in themselves yet possibly beyond the comprehension of the mere men. We will, therefore, not touch upon them in detail.

Our text-book makes it clear that the sale is not completed with the delivery of the goods. In fact, at that point the opportunity for rendering a specific service presents itself, and so corsetieres are educated to properly fit and adjust the corset and to teach the wearer how to do the same. In this way the wearer secures a larger value. In this connection we attempt to make it clear that this personal service is a vital factor of permanency, and that it brings its reward in many ways.

Shortly after her appointment the corsetiere begins our correspondence course. This is a series of twelve lessons prepared annually, as is the text-book, "Instructions in Spirella Corsetry." This annual preparation is necessary because of the changes in styles which occur from year to year. These correspondence lessons take up in detail the questions previously touched upon in our "Instructions." Corsetieres are instructed in the proper use of advertising and order forms and shown how to use them as business builders. The question of profits to the corsetiere is practically ignored. In its place we urge service, putting before the corsetiere, and with a good degree of success,

this idea: given earnest effort, devotion to work, good service, profits take care of themselves.

The Company has a house organ published monthly, devoted exclusively to the interests of its corsetieres and their clients. It is first of all educational. We do not, however, overlook the value of enthusiasm and inspiration and arouse and create as much of these qualities as possible. The Company conducts training schools, both general and local. These training schools are held for four days, at some convenient center. Corsetieres are invited to attend. They pay their own expenses. The Company furnishes a hall, an expert trainer, a model and a large line of demonstration corsets. These corsets are tried on, and the function of each corset is pointed out. Object lessons are given both in correct and incorrect adjustment. Uniform lessons or lectures prepared by the educational department, and relating to the specific work of corsetieres, are handled as fully as circumstances permit. Local training schools are held wherever possible. All of the large cities have an organization directed by a city manager whose business it is to train her people.

The Company maintains an educational department; the entire time of two able and experienced women is given to the development of this work. This department works hand in hand with the designing department. It is not the province of this paper to discuss results. Yet the company feels that while much of its effort has been wasted, there has come to its field force a much larger realization of their opportunities, their responsibilities, their obligations, and that slowly, but surely, it is bringing its corsetieres to a point where the value of constant, systematic educational effort proves itself.

W. W. KINCAID.

THE CHAIRMAN: My reputation is at stake, and I hope you will help me out by coming forward and discussing this report pro and con. One thing that has interested me in these meetings has been the almost uniform agreement on the part of every speaker with the report presented. I never saw that before, in any other convention, and in this meeting, if you have any different opinions, do not hesitate to say so. Honest difference of opinion ought to make good discussion.

MR. E. E. JONES (Alexander Hamilton Institute): It is quite a surprise to me to be asked to speak at this convention. In fact, until a few days ago I did not expect to attend the convention. As a salesman, or prospective salesman, I might say, I am in full agreement with this report, although Mr. Tily has wished upon us disagreement. Dr. Galloway mentioned about the education of railroad men, ticket agents. I can give you a very practical example of the inefficient way in which these men act as salesmen. I wanted to go to Harrisburg, and I called up the East Liberty station, and asked them for particulars regarding evening trains. The man at the telephone told me that I could take any of three trains. I said to my wife—"I will not go by an early train, but will take a late train." When I got on the train I said, "I want to go to Harrisburgh." The conductor said, "Why didn't you take the 9.30 train, if you took that train you could remain in the sleeping car at Harrisburgh." Instead of that, I had to get out of the sleeping car at two o'clock in the morning and find a room at a hotel. The salesman was very inefficient in that case. Instead of doing me a service, he did me a positive wrong, and I think if there is a railroad man here to-day, if he could simply suggest to the railroad companies that they have schools of salesmanship, we as a public would have better service.

I have frequently visited the Westinghouse concerns and met a great many of their salesmen, and I want to tell you, gentlemen, we have in these salesmen men worthy of the name. In the past you would find the salesmen in the hotel lobbies, not of the very best kind, you would not want to mix with them, their conversation was not of a very lofty character. To-day, if you meet the salesmen who have been under our friend, Mr. Bailey Whipple, you will find men who are interesting, men from whom you will receive some value in your conversation with them, and I think if the educational endeavor of the Westing-

house Electric and Manufacturing Company has done only that one thing, if it has succeeded in raising the mental attitude of the men to a higher level, to a level of higher ethics you might say, in these salesmen in the field, they have done a great work.

Salesmanship is one of the big things to-day in any organization, the right kind of salesmanship, not merely putting things over.

The concern I represent compels the men to study salesmanship, they have to go to the head city office and take courses of instruction, they have to study standard presentations; they are put out into the field with an expert salesman, and they are given big ideas in the field of business.

A salesman is not the mean pettyfogging man he was considered to be years ago. He is one of the biggest men in any line of business in any city. When you see the right kind of salesman, you must take your hat off to him.

The different organizations similar to ours are teaching the men salesmanship. When these men are taught salesmanship in the right way, they will go out into the field fearing no man, they are as big as any business man, and if you can instill into your salesmen the thought that when they go into the field that they are the big men, you will have an organization to be proud of.

You must get the right kind of raw material. You must pick it out carefully, and that is a difficult job. There, again, comes the problem of educating men to be sales managers, and I think in the past the great difficulty has been, not in getting salesmen, but in getting sales managers who could procure the right men as salesmen. You can go to any of the large hotels, and you will find there many men who are presumed salesmen, but they are really not salesmen, and the sales manager is to blame, he has not picked out the right men. The old idea that a salesman was born, not made, is a fallacy. If you have the right kind of raw material, you can make good salesmen. Steel ingots are not made in the ground—you get the raw material, you put it through the mill, and in this way you get the steel ingots, and finally from the steel ingots the finest products of the steel are produced. It is the same way with the salesman. You have the raw material all around you. The duty of the sales manager is to get that raw material and put it into shape, and then make of a man a salesman, in the true sense of the word.

There are undoubtedly many who are going to talk on salesmanship, and on the subject matter of this report, and I think I had better cut my remarks short. I want to leave with you this thought, that you business men who are interested in The National Association of Corporation Schools, when a salesman comes into your office, or if you have any man coming into your office, if he has a story to tell you, let him tell you that story, help him in telling you that story—you are doing him an injustice if you treat him with coldness and disdain. You know very well that many business men, some of you perhaps, when a salesman comes into your office you sit down with a dignified air and put your head back and go, as it were, into a shell, and what does the salesman feel like? It is apt to make him feel that he is worth very little, but you must remember that he is a man, and that your action will have an unfavorable influence on him.

This morning we heard a good deal of discussion about the human element in business, about the democracy of business. You men ought to feel when a salesman comes into the office that you should have that spirit of democracy with you then that you have with your friends in the club or elsewhere. If he is selling something worth while, give him attention. He may have a message for you, and if you will not listen to the message you will be the loser by it. The salesman of to-day, if he is worth while calling a salesman, if he represents a concern of any calibre, has something worth while to tell you, and I am glad to say that in some organizations they have notices posted that every salesman is to get an interview and see the man he wishes to see. You may say it takes a lot of time, it may, to listen to all of the salesmen who come to your office, but you will find that most of them are well worth listening to. The salesman's time is worth something, too.

Another thought I want to bring to you then is that the salesman's work is perhaps the biggest part of the deal. Let the Westinghouse Electric & Manufacturing Company sell some product, let it make a contract to deliver a certain product, the salesman goes out, perhaps, to educate the man who is to use that machine or product. Suppose you sell a piece of machinery to a man, and do not send a salesman out to show the purchaser how to use the machinery, they may use the machine in the wrong way and get into all kinds of difficulties. The salesman

can go to the purchaser, and explain the machinery, and show the purchaser how to use the machine to the best advantage. Don't you think that a great percentage of the sale should be considered in the salesman's work? When a contract is signed for a piece of machinery, I should consider that a big percentage of the selling price should go to the credit of the salesman, because he has had the big work in educating the buyer how to use the machinery and the products to the best advantage. In other words, they are missionaries, they are ambassadors, and, I should say, they are the biggest part of any business. Treat the salesman as a man, and the benefits will come back to you.

MR. CHARLES R. STURDEVANT (American Steel & Wire Company): Mr. Chairman, Ladies and Gentlemen: I did not come prepared to speak on this subject but it has been my pleasure and privilege to work with our veteran salesmen during the past four years, men varying in age from twenty-one to sixty years, and during that time I have learned many things. I have, for instance, been greatly surprised at the eagerness with which these men have taken up the line of work which we are teaching, many who have never attended high schools or colleges and who have not been interested in studies, perhaps, for twenty or thirty years. We anticipated a lot of trouble in beginning this work, but I found out all that is necessary is to give them an opportunity, a little encouragement and help, show them that they have chance to benefit themselves, and they will work their hearts out. It has been a revelation to me and to the company.

As to salesmanship itself, we do not attempt to teach this subject. We are dealing with old men who have been in service for many years, and as our General Sales Agent remarks, they are supposed to be salesmen by this time. We are dealing solely with the questions of processes and materials; it is largely a technical subject, and it is a pretty hard one for many of the older men.

I find another thing—even among old men who have formed their habits and who have not been accustomed to study, many have when they returned home, secured the services of instructors and they are keeping up the work nights and Saturdays and Sundays. That has been a surprise to us.

In other words, gentlemen, I find that we are all human and much alike. If some one shows us a way in which we can im-

prove ourselves and make ourselves of greater worth, there are mighty few who will fail to take advantage of opportunities offered.

THE CHAIRMAN: I think, perhaps, the fact that we are all so much agreed upon the topics that have been before us at this convention shows conclusively that the ideals are generally believed all over the country, and service in the human relations has been preached so much that perhaps this convention may mark an epoch in all business that we have all reached that stage where we agree on the ideal. I am sure there ought to be a great deal of discussion as to the method of carrying out this ideal.

MR. H. S. McCORMACK (Business Bourse): I would like to ask a question along these lines—as to whether the Committee has taken up the subject of salary and commissions for remunerating salesmen, and which have they found to be the better method?

DR. LEE GALLOWAY: The Committee did not go into that subject, because the instructions from the Executive Committee were to find ways and methods in teaching and presenting the subject of salesmanship, without going into the question of salaries or commission. We did not consider that side of it. We did not consider methods of compensation.

DR. A. FLEISHER (Metropolitan Life Insurance Company): We have a sales force of 13,000 scattered over the United States (except in a few states) and Canada. I can readily appreciate a detail outline, or the fine parts of an outline, of this sort which would be distinctly usable where there are one hundred salesmen a year to train, or perhaps two hundred, who can be brought to a central place, but where you train between fifty and one hundred salesmen a week, at least in theory, how can you use an outline of this sort? We have a correspondence course, but have not been able to go into the theory of the details of salesmanship at all. I can appreciate the value of a course of this sort, where you can bring the men together and give them personal instruction, but where your business is located in five hundred cities and towns, you have a different problem and the outline is not of distinct help to a group of that sort.

DR. LEE GALLOWAY: Of course, there are certain elements in every educational program, and for that matter, in every line

of activity, in which the long distance conditions and the time conditions may be factors which cannot be readily overcome. The reason why the work of the Spirella Company, Inc., was included in the report, was that it was thought by the Committee to be of some suggestive value to concerns which have perhaps eight thousand or ten thousand people scattered nearly all over the world, and where it is almost impossible to bring them together, so that they can be put into a standardized course of instruction. Even though this outline could not be followed, the outline might be suggestive in the form of some of your lessons that you would use in the correspondence course, as you send agents about, or men to meet your salesmen in the field—then there would be suggestive topics of points of view which might be the kind to inspire them and direct them in their work. If you are carrying on a correspondence course, you might or might not use some such method as this in presenting material to them in written form.

In the course with which I am connected, which we are carrying on for the gas companies of the United States—(we are carrying it on for thousands in this country and Canada)—we have a definite program, a definite course of instruction. It is put up in a way that the students have to answer their lessons and send in their work to a central office where corrections and remarks are made upon the lessons before they are sent back. (Of course, you could not use it as a basis of class instruction if you cannot get the class. In that way, I think it might be of distinct value even in that case.

MR. C. R. DOOLEY: Mr. Jones mentioned the training of the raw material to make a salesman, if he has the elements born in him. I know that Mr. Vinal and Mr. Dietz have had a lot of experience in selecting prospective salesmen from raw material, and perhaps others too. I wonder if we can persuade them to say a few words.

MR. J. W. DIETZ: There is just one point which occurred to me in connection with the question which was raised—if you cannot bring the students to the school, send the school to the students. We are not giving lessons in salesmanship, but in commercial work. In general, we have adopted the plan of sending groups of specialists in various lines of work, to our distributing organizations located in practically all the principal

cities of the country, and in that way having conferences within the reach of the salesmen in that territory.

I think there is broadly a fundamental thought we might pound a bit. Not especially in connection with the training of the salesmen, but broadly the foundation training for commercial men. Our company has worked somewhat along that line in that we have certain fundamental things which we want our commercial men to know about our business before they take up their special activities as salesmen, as store managers, or financial and credit men. These fundamentals, we believe, are a knowledge of our products, a knowledge of our people, of our personnel, and a knowledge of our plant, as well as a knowledge of our customers, and other things.

We have found it possible through a variety of working experiences for us to be able to give these commercial men a breadth of view of our business in a comparatively short time that will make them, first of all, company men, and upon which they will have to build their specific or special training as service men, or salesmen, or credit men, after they have gotten into our distributing organization. We might say that it is a general commercial course upon which to build a specific training.

We do that in this way—we bring some of the younger talent, some of the raw material, as Mr. Dooley has called it, as well as some selected older people who have qualifications for commercial work to our central plant and give them an opportunity to see our apparatus manufactured, to see how it is assembled, and to get in touch with some of the manufacturing difficulties, so that when a man is dealing with customers he knows something of the actual difficulties of manufacturing problems in the handling of tools and of materials, and shortages of all sorts, and breakdowns, and things of that sort which will make a commercial man familiar with the reasonableness of the promises which he is to give to a customer. We give him some acquaintance also with our standard central distribution service which you might say is a reservoir of stock available for all of our distributing houses. We give him some idea how the service is handled with our distributing organization, that is, between the branch house and this central supply station. These, we feel, are fundamental things and you are building broadly for the future.

In other words, while we are not conducting a school for salesmen, we believe that we are laying a foundation for good commercial men for our business.

MR. ALBERT C. VINAL: I do not think I can make any contribution of value. I could have said a few words on the subject of training. We have the same problem, particularly in training our operators; that is, our operations are country wide, and we solve our difficulty by carrying the instruction course to different sections of the country, and centralizing a group in the west, a group in the east, in the south, etc., which is simply a matter of organizing the corps of instructors, and so far as we are concerned, I should think it might be true in connection with the problem Dr. Fleisher raised. I see nothing which is fundamental to prevent the training of the men at several points, as well as training them at one point, if enough groups of people are available to make it worth while and the instructors are available.

DR. HENRY C. METCALF: I would like to relate a little experience which perhaps points a moral. Last winter I was invited to address a group of about eighty gentlemen in the gas business, including a few executives, but chiefly salesmen. As usual, I discussed the human factor in business. After unfolding my ideas, there was a general discussion. The president of a company, much concerned because his men did not make better progress in their educational work, said: "Your ideas, Mr. Metcalf, are fine. Now will you tell us how to put them across?" I asked for a statement of how his company conducted its educational work, and learned that the men came together at six o'clock in the evening when they dined. Then they gathered in groups and discussed the problems outlined by the National Commercial Gas Association. The work began about seven o'clock. By eight o'clock most of the men were too tired and sleepy to do any effective thinking. This is the old, old story; the inability or unwillingness to recognize the fundamental fact that educational work is costly in time and effort.

My reply was as follows: "If your educational work is worth while, if you believe it is a good business asset to train your men, make your educational work a regular part of your business, put it on company time, pay for it, and hold your men re-

sponsible for results." The sentiment was generally applauded from all parts of the room.

Men cannot reasonably be expected to do a hard day's work at their regular duties, and then spend two or more hours in the evening doing effective educational work. If the management will clear the way, prepare the hope of reasonable advancement, which is the greatest stimulus to educational work, give the opportunity and the time, the men in positions of responsibility will, as a rule, bear the greatest share of the burden of their own development.

Corporation education is slowly but surely coming to be recognized as a vital, integral part of a business. As such it must be treated as any other part of the business—that is, given adequate time, opportunity and reward for its realization.

MR. W. M. SKIFF: The National Lamp Works of General Electric Company, which I represent, does not operate a regular salesmen's school. It does, however, train its men along certain definite lines.

It has been found that road men to be successful must be more than salesmen. They must be sales engineers and as such should be capable of disseminating engineering information which will be of assistance to their customers in the future utilization of the product. To acquaint our sales representatives with this engineering information, much time and effort is devoted to schooling them individually or collectively along engineering lines. Usually before a man goes on the road he is sent to Cleveland and allowed to remain as long as may be necessary for him to obtain a thorough foundation in the necessary engineering fundamentals. Periodically technical information is furnished each man for the purpose of keeping him thoroughly up-to-date.

Once each year the men are brought to the Home Office and given a week's course of instruction, not only on engineering developments but on regular business lines as well. During these meetings the men are housed in a well organized camp, which affords ample opportunity for relaxation and athletic diversion outside the regular meeting periods.

MR. H. S. McCORMACK: I would like to ask one more question. I notice that on page 9 reference is made to the subject of "Organizing a Territory," and "Planning the Personal Selling

Campaign," and I would ask the question as to whether the organization of the territory comes under the heading of sales class, and as to how much time a salesman really devotes to this work? This matter has been studied by some people, and they claim that they find the average time a salesman actually puts in in selling his goods is two hours a day. That is the time during which he is interviewing his customers. Journeying from place to place is not actual work. His contact with the customer he is trying to sell goods to is put at two hours a day. I wondered if such matters came under that heading?

DR. LEE GALLOWAY: The whole subject of organizing the territory is one which I have found is becoming a most vital one in commercial organizations, that is, so far as scientific management has been applied to the sales department. It is in that connection I believe most attention is being given it—in the region of organizing the salesman's territory. I know of one company which dealt in moulding machines for foundries. They had followed the standard practice of sending men who were technical college graduates out to develop the territory. A man survived if he had the requisite amount of grit and other things necessary for a salesman's success. He would finally work up his territory and likewise come to virtually own his prospects so that it was up to the management, if they should see the slightest occasion which would suggest that he might leave them, because he wanted a raise in salary, or something of that sort, to beg that fellow to stay with them.

In order to overcome that condition a reorganization of the territory was undertaken. It took the vice-president of this company six months of solid work to study out his territory. He made two or three different maps, taking the M. & T. system as the basis of organizing it, and each time it was not considered satisfactory, so map after map was destroyed, when they would take another basis of organizing the territory. Finally, the territory of the United States was well defined, every foundry in the United States was catalogued and classified, and the route of the salesman has been worked down to such a scientific point that only the shortest routes are taken by the salesman, saving time, expense, duplication and delays.

They have gone further, and that will touch your point directly; they have undertaken a saving of the salesman's time.

That has been worked to such a point that this company sends cards in advance, which come up in tickler form every day or every two days, depending on the territory to be covered by the man, so that he gets notice of his prospects in advance. These notices give the man who is supposed to visit the trade some information about the man he is to see and also as to the route that he is to take, provided that has not already been decided upon. In case he happens to be taken off from the regular route, and put on a special trip, or anything of that kind, that is also all scheduled for him, so the salesman wastes no time in deciding on what route he has to take, or what men or the kind of men he is going to call upon. This same salesman manager informed me that they expected to put two or three years more of study on this work and that then they would have what they considered a scientific organization of the territory; that is, it would mean from three to five years of constant work and effort on the part of the management to organize this territory upon a basis that would be highly efficient.

I have not heard any figures as to the amount of time a salesman actually does put upon selling, but from my association with salesmen and coming in contact with many of them in various lines, I should judge perhaps two or three hours a day would come close to the real interview time, the time which counts. So this organization of the territory is a vital matter. Then, too, there is considerable instruction which can be given to the salesman along the point of getting data out of that territory and getting it into the home office so it can be classified, providing the management has that in view—that is one of the most vital points in the whole scheme of selling. There is a physical basis upon which all salesmen work, and that is the division of the territory and the prospects in it. That is an important thing, and something which makes it easier to analyze than it is to take up the individual salesmen from the psychological point of view of determining the motives by which the customer is moved.

MR. J. D. GILL (The Atlantic Refining Company): I might add a word supplementing Dr. Galloway's answer to Mr. McCormack on this particular point. The question is a very difficult one to give a definite answer to for the reason that much depends on the territory, as the Doctor intimated, particularly with regard to the distance that must be traveled by the sales-

man. I have been in pretty close touch with some figures along that particular line, and have found that the calls per day may be as low as one or two, and as high as forty or fifty, depending largely upon the territory and the class of trade visited. Obviously, much also depends on circumstances attending the call, and the number of calls that may be made from day to day will vary greatly with those circumstances. A salesman may start out in the morning and find that of ten prospects he visits five are out and cannot be seen. The time required to obtain the information that the man he expected to see is out requires but a few minutes, and he passes on to the next place. Therefore, the number of visits he makes in a day is limited somewhat by the time necessary to pass from place to place. In cities, generally speaking, a man should make from fifteen to twenty calls, there again depending on the class of trade which he is visiting.

It is well known that canvassers, those who pass from door to door, can make as many as seventy or eighty calls a day, sometimes a higher number, whereas those who visit the larger institutions scattered about the bigger cities can make possibly only a dozen calls a day.

MR. E. W. HARVEY (D. C. Heath & Co.): I will ask Dr. Galloway if there has been any effort to get the buyer's point of view in arranging such details as these?

DR. LEE GALLOWAY: There were no buyers upon the Committee, and I think that point was absolutely neglected, as far as getting that information is concerned.

MR. ALBERT C. VINAL: One thought occurs to me, Mr. Chairman, that did not occur to me at the time that you asked me if I had anything to say, which I think, perhaps, is important enough to mention in connection with the general proposition of training schools of any kind. I assume that it applies to training schools of any kind. I assume that it applies to training schools for salesmen as well as any others. Companies taking up plans to conduct training work of any kind should not underestimate the importance of doing it right. The companies that have been conducting organized training work for a good many years have realized from experience that it is a big proposition to develop training work that is really satisfactory. It is not a thing that can be done in a year or two. I think in most cases

it requires five years, at any rate, to develop training work for any one class of employees before it is really on a satisfactory basis; that is, satisfactory from the standpoint of properly qualifying the employees with a minimum of expense and time. Standards in training work are the same as standards in any other class of work; we want to get the maximum results with the minimum expenditure of time and money.

To combine training with the particular work that should be done, and to do the training in the most effective way, is a very big problem, but it is an extremely interesting problem. It is not work that can be done over night, any more than public educational work or college educational work.

Our experience has been that with respect to any kind of training work which we have developed, we have eventually gotten on a basis which has been eminently satisfactory.

MR. J. M. LARKIN (Fore River Shipbuilding Corporation): I do not know much about selling, but a thought occurred to me, while sitting here, in connection with the other end of the business, and that is the purchasing department. It seems to me that a great deal of the good that might be done in educating the salesman would be lost if the purchasing department did not have the proper viewpoint. I think that there are a great many salesmen who feel that the company with which they expect to do business is probably all right, but that oftentimes the trouble lies with the purchasing agent. It seems to me as though, if we would get a maximum organization, that there should be an allied course for both the sales department and the purchasing department.

THE CHAIRMAN: If there is no one else just at present who wishes to discuss the report, suppose we take a ten minutes' recess before starting the next half of the program.

COMMITTEE ON RETAIL SALESMANSHIP

MR. JAMES W. FISK, *Chairman*

LORD & TAYLOR

Fifth Avenue and 39th Street, New York, N. Y.

Miss BEULAH KENNARD

49 Lafayette Street, New York, N. Y.

Miss LILIAN MEYNCKE

THE RIKE-KUMLER COMPANY

Dayton, Ohio

MR. H. G. PETERMANN

UNITED CIGAR STORES COMPANY

New York, N. Y.

MR. RALPH W. KINSEY

DIVES, POMEROY & STEWART

Reading, Pa.

WEDNESDAY—AFTERNOON SESSION.

RETAIL SALESMANSHIP.

WEDNESDAY AFTERNOON, MAY 31ST, 1916.

VICE-PRESIDENT HERBERT J. TILY, *Presiding.*

THE CHAIRMAN: The next report to be taken up is that of the Committee on Retail Salesmanship. The Chairman of the Committee, Mr. James W. Fisk, of New York, is not here. Miss Beulah E. Kennard, a member of the Committee, who has been interested in this work for many years, will present the report.

MISS BEULAH E. KENNARD: I am very sorry Mr. Fisk is not here, because he would undoubtedly be prepared to give a better summary of the report than I can. In the first place, the scope of the report was purposely limited, as there is another committee on salesmanship, and we did not like to duplicate the material that was to be treated in another report, and therefore in the two hundred questionnaires which were sent to two hundred department stores, several very definite, concrete and simple questions were asked in order that we might get their reaction. At the meeting last year there were a good many questions raised as to the efficiency of the public schools in preparing people for industry, and particularly in preparing them for the department stores, and therefore we asked these simple questions as to what kind of public school preparation was needed for salesmen and saleswomen.

The theories as to manual training are interesting, because there is a good deal of time lost on account of a lack of manual dexterity on the part of those who enter our stores from the grammar school grades, and we thought it might be worth while to get some information from these business men as to what kind of hand training would be of value in giving that manual dexterity. One of the reasons for emphasizing hand work is that many of the children who go to work early have had much less incidental manual training than children used to get at home,

because they have done much less in the way of helping at home.

The answers to the questions on physical training miss the point, because we were talking about what should be done in the public schools to prepare for employment, but they in most cases emphasized physical training taken after employment.

Only a few seemed to have thought that health was a matter of prime importance.

REPORT OF COMMITTEE ON RETAIL SALESMANSHIP

The attached questionnaire was sent by your Committee to two hundred representative retail stores in all parts of the country. Of this number only twenty-one replied.

Replies were received from:

The Killian Company, Cedar Rapids, Iowa.
Sanger Brothers, Dallas, Texas.
Board of Commerce, Detroit, Michigan.
Shartenburg & Robinson, New Haven, Conn.
Duffy-Powers Co., Rochester, N. Y.
Golden Rule Department Store, St. Paul, Minn.
L. S. Donaldson Co., Minneapolis, Minn.
Louis Traxler Co., Dayton, Ohio.
Dives Pomeroy & Stewart, Reading, Pa.
Davidson Brothers Co., Sioux City, Iowa.
The A. T. Lewis & Son Co., Denver, Colo.
Mandel Brothers, Chicago, Illinois.
Harris-Emery Co., Des Moines, Iowa.
Daniels & Fisher Store Co., Denver, Colo.
L. S. Ayres & Co., Indianapolis, Ind.
The Emporium, San Francisco, Calif.
Lord & Taylor, New York City.
The Morehouse Martens Co., Columbus, Ohio.
The LaSalle & Koch Co., Toledo, Ohio.
Hamburger & Sons, Los Angeles, Calif.

It is regrettable that only twenty-one replies were received. This may be due to two conditions—the fact that business men are receiving too many questionnaires, or, that those addressed had no well-defined ideas on the subjects mentioned.

However, many of those who failed to reply are known to have educational departments and these were doubtless prompted to withhold replies by some motive other than lack of belief in, and an appreciation of the importance of work of this character.

The replies received indicate that progress is being made in the installation of business education for department store employes.

The following summary of replies is respectfully submitted:

QUESTIONNAIRE.

PUBLIC SCHOOLS.

Arithmetic.

Of what should the course in public schools consist, in order to prepare for making accurate sales checks? For rapid work?

English.

What courses in English are needed?

Manual Training.

What kind of manual training would be advisable for the development of dexterity and skill in the use of the hands?

Materials.

What would you suggest in the way of courses in materials or other special subjects?

Physical Training.

What kind of physical training do you consider best for salespeople?

STORE SCHOOLS.

1. What methods do you believe most practical in store schools of salesmanship? Please answer as fully as possible.
2. What instruction should be given in the store in general education?
3. Would such education so improve efficiency as to justify the use of time during business hours?
4. Please outline what you consider a practical method of teaching.
 1. Merchandise.
 2. Store system.
 3. Salesmanship.

PUBLIC SCHOOLS.

1. *Arithmetic.* Of what should the course in Public School consist in order to prepare for making accurate sales checks? For rapid work?

Answers.

- 7 Thorough drill in addition, multiplication and mental arithmetic.
 - 6 Instruction in fractions.
 - 4 Instruction in division.
 - 3 Instruction in commercial short cuts.
- Others mentioned discounts, interest, decimals, percentage and foreign measurements. One suggested black-board test for acquiring speed and accuracy. Another suggested copying exercises on accuracy.
- 7. Emphasized the need of instruction in good clear legible writing.
 - 3. Referred to Boston School of Salesmanship for their answers.

2. *English.* What courses in English are needed?

Answers.

- 7. Drill in correct construction of sentences and proper use of words and the broadening of one's vocabulary with regard to adjectives especially.
- 2. Drill in reading orally.
 - First.* In order to be familiar with good specimens of English Literature and History.
 - Second.* In order to cultivate a pleasant voice.
- 2. Drill in good conversational English so as to speak fluently. By this means bad grammar, slang, indistinct speech and bad pronunciation might be corrected.
 - 1. Suggested letter writing drill and printing of capitals.
 - 1. Drill in Business English.
 - 1. Course in Public Speaking.
 - 3. Suggested that salespeople should be encouraged to read not only good fiction but also to read the newspapers and books on Business topics.
 - 3. Referred to Boston School of Salesmanship.

3. *Manual Training.* What kind of manual training would be advisable for the development of dexterity and skill in the use of the hands?

Answers.

2. No answer. Made no report.
 1. Need make no change from that of regular up-to-date school.
 1. Not essential to store work.
 3. Referred to Boston School of Salesmanship.
 3. Suggested any training which would develop accuracy and speed in folding and a lightness of touch would be beneficial, i.e., drill in folding piece goods, rolling velvets, folding laces, wrapping packages and packing fragile merchandise.
 1. Suggested a course in window trimming.
 2. Baseball or any kind of ball games.
 2. Suggested that any one skilled in handling of needle would show merchandise to advantage.
 1. Suggested that one who could handle kitchen utensils or who could play a good game of either golf or tennis might be depended upon to use his hands to advantage in showing merchandise.
 1. Suggested elementary carpentering, toolmaking, steam and electrical engineering, dressmaking and millinery.
 1. Practice in rapid measuring and cutting of goods, handling of boxes, rapid change from one type of motion to another.
 1. That which would assist in teaching classification and orderly arrangement in stock, neatness and system. Drawing which would teach combination of colors.
4. *Materials.* What would you suggest in the way of courses in materials or other special subjects?

Answers.

3. Referred to Boston School of Salesmanship.
7. Suggested study of cotton, wool and silks in general.
4. Course in combination of materials.

3. Suggested courses that would give one a working knowledge of woods, metals, leathers and acids.
 1. A course which would also include study of furs, bristles, flax, glass and paper.
 1. Suggested no course was necessary because the interested employe can learn all about material in his department and in the public library.
 1. Suggested instruction in names, cost and uses of principal textile fibers, besides that of hardware, china, cutlery and groceries was all that was necessary.
 2. Laid special stress on need of knowledge in coloring and dyes, in order to be informed in the wear of different materials.
 1. Suggested a study of all materials from the source starting from the natural state through all the various processes up to the dyed materials on the shelf. Also suggested that instruction should be given in reasons for shrinking, fading, and growing shabby of different materials.
 1. The course should be general rather than try to go extensively into any one.
 1. Discussion of yard goods was necessary.
 3. Referred to Boston School of Salesmanship.
5. *Physical Training.* What kind of Physical Training do you consider best for salespeople?

Answers.

3. Referred to Boston School of Salesmanship.
1. Suggested walking to work and during lunch hour sufficient exercise.
4. Thought walking out of doors with other exercise as good.
2. Suggested swimming.
4. Emphasized instruction in correct posture while one thought floor manager could make all corrections in this line and with regard to personal appearance.
2. Suggested physical games, while one recommended only golf, tennis and ball games.
1. Emphasized business value of health.

2. Corrective work in gymnasium along with other exercises.
3. Suggested instruction in breathing.
 1. Dancing, along with games and corrective work.
 2. Light exercises for relaxation would enable them to stand without fatigue.
1. Swoboda system.
3. Suggested instruction in practical hygiene, teaching how to dress, eat and to exercise so as to conserve one's health and good spirits. 2 laid emphasis on feet and their care.
1. Suggested exercises to develop lungs, muscle and body,—keep one from getting fat and “make good blood circulation.”
1. Suggested development of muscles of feet, back and abdomen (primarily).
1. Gymnasium work if possible and also athletics outdoors and U. S. army setting up exercises for home use.

STORE SCHOOLS.

1. What methods do you believe most practical in store schools of salesmanship?

Answers.

2. Gave no answers.
3. Referred to Boston School of Salesmanship.
 1. Case method.
 2. Suggested placing new employes under direct care of competent salesperson.
2. Demonstration sales by floor manager or competent salesperson.
6. Suggested taking groups in classes as follows:
 - (1) Instruction that would prepare them for the pitfalls in the store.
 - (1) Practical school to cultivate their minds by reading good things and give them an opportunity in classes to speak or read their papers.
 - (1) Classes in salesmanship four or five times a week.

- (1) Groups of 25 or less who are interested in the same or related lines of merchandise.
- (1) General Class instruction with daily voluntary attendance drawn from younger women only.
- (1) Lectures with open discussion by a member of firm or their representative. To be given each week or every 2 weeks for 30 minutes just before or after opening hour of store.

2. What instruction should be given in the store in general education?

Answers.

- 1. No instruction outside store's province, have a library, urge night schools, etc.
 - 1. Knowledge of one's self, hygiene, English, accuracy.
 - 1. Hygiene and good citizenship.
 - 1. Courses in current events, debating and health.
 - 1. School for younger employes partly general, partly vocational, morals and manners.
 - 4. Referred to Boston School of Salesmanship.
 - 2. No answer.
3. Would such education so improve efficiency as to justify the use of time during business hours?
- 1. Gave no answer.
 - 4. Referred to Boston School of Salesmanship.
 - 1. Suggested that if courses in Public School were properly chosen it would not be necessary to give any part of the business-day to purely educational subjects.
 - 6. Replied in the affirmative.
 - 3. Replied in the affirmative providing they were either unable to get the people with the proper knowledge or in case any of their employes were unable to attend night school.
 - 4. Replied in the negative stating their people could go to night school.
 - 4. Please outline what you consider a practical method of teaching.

1. Merchandise.
2. Store system.
3. Salesmanship.

1. *Merchandise.*

1. Full course in making of merchandise clerk is required to sell, new merchandise as it arrives, new modes and fashions exhibited and displayed.
1. Group handling the same or related merchandise, should study it, write up points, study production and processes of manufacture.
1. Laboratory method, samples of materials with descriptions pasted in a book.
1. Lectures by practical salespeople.
1. Experience.
1. Case system.
5. Instruction in departments by buyers, salespeople, etc.
4. Referred to Boston School of Salesmanship.
5. No answer.

Store System.

1. Knowledge of credit system in store supplemented by trip through establishment showing various operations.
1. Study of purpose and use of checks and of different situations in which each is used.
1. Outline charts of all forms should be demonstrated with their use.
1. Case system.
3. Classes under store instructor.
3. Lectures by superintendents.
4. Referred to Boston School of Salesmanship.
6. No answer.

Salesmanship.

1. Discussion of types of customers, methods of approach, adaptation, etc.
1. Principles of selling, parts of sale, demonstration sales.
1. Gives outline of course instead of method.

1. Suggestion and inspiration.
1. Case system.
1. No training.
4. Demonstration sales.
4. Referred to Boston School of Salesmanship.
6. No answer.

RECOMMENDATIONS.

The answers with regard to Public School work have the same general viewpoint and may be summarized as follows:

Arithmetic: instruction should be simplified with more emphasis on the primary operations of addition, subtraction, multiplication and fractions.

Frequent drills are recommended with great stress to be laid on accuracy and more attention given to mental arithmetic.

These suggestions are in accordance with the best Public School practice to-day, but the committee would further recommend:

1st: That store superintendents get in touch with local school authorities showing them the arithmetical errors most commonly made and outlining the commercial short cuts which would be valuable in department store employment.

2nd: That a uniform or standard salescheck be adopted which might be taught in the schools and would save countless errors. The advantages now accruing from individuality in the salescheck cannot balance the losses due to minute and merely incidental differences.

English: instruction should be especially directed to oral or conversational English, including:

Drill in sentence construction,

Broadening the vocabulary, especially with regard to adjectives,

The elimination of bad grammar and slang,

Drill in correct pronunciation and in Business English is also recommended.

These are all suggestions which the committee would heartily endorse. We would question the advantage of reading books on business topics while in the grammar grades, as far too little time is available for the "good specimens of English Literature and History" so necessary for proper mental development. This suggestion, however, should be adopted wherever pupils are able to take a High School course. Legible writing and printing of capitals should be made a part of all English instruction either in the grammar or High School.

Manual Training: Much remains to be done in the schools to develop manual dexterity, but no system has been suggested which would answer the comprehensive requirements of the department store. Practice in handling materials, rolling, folding, cutting, wrapping packages and handling fragile objects with a light and careful touch may well be made a part of every child's education, but controlled and intelligent use of the hands may also be gained through games, drawing and some forms of trade training. This is a topic which needs intensive study and we would recommend the appointment of a special committee from this organization to cooperate with school authorities in making such a study.

Materials: Textiles and other materials are now being taught in the public schools. A number of valuable suggestions have been made as to the value of this study to department store employees. Would recommend the cooperation of this Association with the schools in outlining practical courses, especially in the less familiar fields such as leather, china, and glass, metals and woods for both the grammar and high schools.

Physical Training: No recommendations should be made on this subject until we have more data concerning the particular weaknesses and physical strain induced by department store work. Most of the answers indicated the kind of exercise desirable after employment rather than preparatory physical equipment. Limited investigations have shown the strain upon back and feet and muscle hardening due to long hours of standing. Special attention should therefore be given to correct posture, deep breathing, care of the feet and

corrective exercises to keep the body supple. Gymnasium work and athletics, particularly swimming, would be preventive of a large number of department store ailments and general instruction in hygiene, diet and proper clothing are as important here as in all industrial life.

Regarding all these points we would again urge co-operation and mutual exchange of experience between store executives and schools.

Four questions were asked by the Committee with regard to store schools but we found that experimentation along this line had been so individual and in most cases has been so recent that few general conclusions can be drawn.

The first question as to practical methods was answered in ten different ways, but several referred to matter rather than method. Up to the present time the following have proven effective. (This list includes some stores not answering questionnaire.)

1. Conference method including large groups drawn from salespeople, buyers, floor managers and sometimes executives for discussion of general store problems.
2. Lectures by members of the firm or experts from outside the store. These also are given to large groups.
3. General classes in salesmanship for salespeople only, with emphasis on the demonstration sale.
4. Classes in merchandise and departmental requirements.
(These are the most recent.)

To these should be added the brief course in store system given in nearly all department stores. "Continuation classes" under the Public Schools are also increasing rapidly. All of these methods are good. Which is best or what combination should be made is the problem for each store to try out for itself.

The question as to General Education did not bring pertinent replies. Many stores feel that such education should not be given on valuable store time. A large number of stores now provide a library of selected books, some offer general courses in the evening and a few give instruction in business hours. When asked whether such education would justify the use of time (in business hours) about half of our answers were in the affirmative, but only a few of these had tried it.

The last question regarding the teaching of Merchandise, System and Salesmanship had been covered by many in their earlier answers.

On Merchandise three suggestions were made, all of which we recommend:

1. That the group (or departments) handling related merchandise, study its production and manufacture, the members writing up points themselves.
- 2. The laboratory method with samples of materials pasted in a book. (This could only refer to textiles.)
3. Lectures by practical salespeople.
4. A more comprehensive study, which is not mentioned but has been successfully tried, is a combination of all three under the guidance of an experienced teacher with illustrative exhibits of processes and materials and a summary of the lecture given to the class for further use.

Store System is taught by the individual method, to small groups and in general classes. One excellent suggestion was made that this instruction be supplemented by trips through the establishment in order to have various operations explained.

Salesmanship Instruction has been given through:

1. Demonstration sales,
2. The "case" system,
3. Discussion of types of customers and the principles of selling.

We recommend:

That instructions cover first general methods as prompt approach, demonstration of the merchandise, overcoming usual objections to purchase and other points which will apply to the majority of customers.

That this be followed by instruction in serving each type of customers in an individual manner.

That finally the methods evolved be subjected to criticism and discussion by salespeople and, when approved, embodied in a selling manual.

That at least in the beginning educational activities be devoted to increasing individual sales by teaching how to make more sales and to make each sale larger.

That many welfare problems will be solved by increased earning power of the individual. That the store employing proper methods of instruction will profit through increased efficiency of each salesperson.

That combined with adequate merchandise knowledge, right selling methods make department store education economically sound.

That no store, large or small, that hopes to realize the greatest possible amount on its investment can afford to be without an educational system to develop each productive employe.

Respectfully submitted,

JAMES W. FISK,
Chairman.

THE CHAIRMAN: This subject is now open for discussion. Do not make me call on you one by one to respond.

MISS BEULAH E. KENNARD: I think I would rather get my discussion over with, and then you can all talk. The report is limited in its scope to "store" salesmanship as well as retail salesmanship and therefore the replies to the questionnaire and the conclusions of the committee are affected by store limitations as to time, etc. It does not consider the training of salesmen who go out on the road as they present an entirely different problem.

I would like to call your attention to the two divisions of the questionnaire:

First, what the merchant wants—or thinks he wants from the public schools.

Second, what the merchant is doing or thinks he is doing for the training of his employees.

The questions as to Arithmetic and English were asked partly as the result of last year's convention when so much criticism was made of the public schools and their failure to teach the common branches. Only a part of the answers showed that any real thought had been given to the subject. This was even more noticeable in the replies concerning materials and manual and physical training. The general impression which I gained from a study of the replies was that few if any of the store managers had studied their own jobs from an educational viewpoint. They do not know the kinds of bodies or minds or the character of the knowledge which an employee should bring to his work in order to do that work successfully.

Health is reckoned of maximum importance in many large industrial concerns, but it is still treated as merely a welfare problem and not an economic one by the stores. Manual training as an aid to skill and dexterity was also apparently a new idea to most of them. Employers do know in a somewhat indefinite form what they want, but they have not yet formulated their needs in clear and precise terms. Frequent conferences between businessmen and schoolmen at this stage would help to bring about the clear understanding necessary to cooperation. They would, for instance, prevent the mistaken idea concerning cultural studies, such as music and drawing. In yesterday's report on Public Education the statement was made that employers wanted certain mental characteristics in adaptability, skill, personality,

but they do not know how much they owe to the sense training and training in self-expression which come through these two studies.

Store schools have now become popular, but apparently there are no two alike. Some stores think they have an educational system when they only teach the sales check noted. There is much confusion as to the relative importance of the different factors in good salesmanship.

Qualifications for salesmanship may be divided into three classes:

1. Natural ability.
2. Knowledge.
3. Store service.

The last of the three has had almost all the attention thus far. The first is taken for granted as a fixed quantity and the second as of little account. When any analysis has been made of personal qualifications of saleswomen the three classes have been hopelessly mixed and for this reason the training of salespeople has been as unstandardized as their occupation itself. Real education will recognize the varieties of natural ability and seek to develop it though such a process among adults is necessarily slow. It will put a firm foundation of knowledge beneath the feet of the student and it will by these means change her attitude toward the purely mechanical or incidental factors of store service.

Among the qualities necessary to good salesmanship, for instance, have been placed, "courtesy, promptness, initiative and judgment" without recognition of the fact that the first two may be properly required of all, while initiative and judgment are the result of natural ability and knowledge.

Good salesmanship again requires three things:

1. Knowledge of merchandise and store system.
2. Knowledge of the customer.
3. Knowledge of the process of selling.

In order to put a salesgirl behind a counter the mechanics of the sale must be taught her first, but if she is to be a real saleswoman and not a counter server she must have all three of these requirements and also be skillful in applying them to the case in hand.

But the most serious handicap to sound educational theories

and methods in retail salesmanship is not the lack of clear ideas as to subjects and their relative importance, but the demand on the part of employers for immediate results in dollars and cents. Of course the store must profit by its educational system, but real education is not accomplished in a day. We forget the moral of the child's story about one thing that even God could not do—"make a two-year-old chicken in ten minutes." The educational work may bring with it a quickened interest, co-operation and better administration which will show immediate results. If salespeople are stimulated to watch their own sales and compare them and analyse their failures and successes a process has been started which will give some return at once, but its final value will only come through an amount of time and hard work given by both instructor and pupil which would produce a like result in other educational lines. The Germans allow three years for a salesgirl's course which covers a wide field and develops natural ability as well as giving the occupational training. The danger is in confusing efficiency methods with fundamental education.

There are two other considerations which should not be forgotten in this discussion: One is that retail salesmanship is very largely in the hands of women and the problem is a woman's problem. Some stores have tried to solve the difficulty by teaching cooking (out of hours) instead of salesmanship. But this is no solution at all. The personal problem of the girl or woman does affect her salesmanship, and welfare work or household economics may be very valuable to her, but just because of her handicap she needs very definite and adequate vocational training. Her work should be dignified and she should be given the confidence which is dependent on knowledge and ability alone.

Lastly, business has a social debt to pay because of its present commanding position and its educational methods must be big enough to be of service to the community. In personal conduct the employer sets the standard rather than the church or state. Industry enters the family when it uses the women and children.

Business owes a debt to the family when it takes children out of the home. A very interesting exhibition of our business point of view today was in the preparedness parade in New York City a few weeks ago. We are all interested in this question, but I should have imagined that men would have marched as

individuals, or as heads of families, or in a dozen different ways that they might have been grouped in representing themselves on a national issue, but when they appeared in that parade they were all business men, stock exchange people, lawyers, silk manufacturers, etc. Each one was represented by its business group, and in that way the marchers expressed themselves, as they thought, more effectively than they could in any other way.

Business is asking that education should be adjusted to its needs. It is changing our educational curriculum and methods. We have a right to ask in return that in its ideals it shall be mindful not ~~only~~ of profits, but of the fundamental human values.

MR. NORMAN COLLYER (Southern Pacific Company): Dr. Galloway just suggested to me that it might be of interest to tell you, as I told him in New York last week, how the Southern Pacific Company is retailing transportation. We seldom think of the selling of tickets as retail salesmanship, and yet that is just what it is. It is the small business transaction; the sale over the counter, with a new face every minute. When we sell a ticket we do not sell a commodity which is to be used; we sell simply an expression of that commodity. It is as if a store manager were selling all the year around merchandise orders such as he usually sells only during the holiday season. We sell tickets, and then these tickets are presented somewhere else and the commodity which is really the basis of the sale, namely, transportation, is there provided and used all at the same moment.

One of the methods we have found valuable in selling transportation on a retail basis is to try to get the customer and seller as close together, in as intimate a relation, as we can. To that end, we make our ticket counters resemble as closely as possible ribbon counters, or cigar store counters. If you go into the Grand Central Terminal, in New York, or into the Pennsylvania Terminal (the Pennsylvania Railroad being represented here by Mr. Dougherty), you will find the ticket clerks immured in a sort of fortress-like arrangement, as if they were either wild beasts to be kept from the public, or as if the public were pirates who would attack the ticket clerk at any moment and rob him of his tickets and cash. They are imprisoned in these stone cells, and then the windows are covered up with brass gratings, so as to hide the identity of the ticket clerks still further, if such were possible. When you want to buy a ticket you go to the

window and peer in, and you ask for your ticket. And the ticket clerk goes over to one of those tall cases where the tickets are stored, and selects a ticket and brings it back and stamps it and sells it to you.

In our new station in San Francisco we have a number of new wrinkles, one of which we are inordinately proud of, and never get tired of talking about, and that is our ticket selling arrangement. Instead of one of these prisons, we have an oval counter which projects out into the concourse, and behind this counter the ticket clerks are stationed. The counter is low, and has only sufficient protection to guard the cash, consisting of little brass gates which can be set up or taken down at will. When they are taken down the space between the customer and the ticket seller is perfectly open. When the ticket clerk sells his ticket, instead of going over to a ticket case he merely spins a drum under the counter, and in the periphery of that drum are struck all of the tickets which are to be sold at that counter. The ticket clerk does not leave the customer, he does not turn away from him, the customer and the ticket clerk are face to face during the entire transaction, and the ticket clerk does not have to step away from the counter one inch.

Another means we have of increasing the selling ability of our ticket clerks is to give them some first hand acquaintance with our stock, namely, the transportation which we have to sell. I do not mean the tickets, but the transportation itself; and we do that by making up groups of ticket clerks on the Pacific Coast and bringing them all the way East over the Southern Pacific lines, and when they get here they travel over the foreign lines and visit the principal cities. They come by the southern route through New Orleans, and over the Washington-Sunset Route to Washington, returning thence to New Orleans where they take a Southern Pacific steamer to New York. Then they visit Philadelphia, Boston, Pittsburgh and other cities, going home by way of Chicago and Omaha.

Similarly we make up groups of our ticket agents in the East and take them to the Pacific Coast to see what transportation we have to sell out there, and that gives them a vital interest and inspiration that they can never get from guide books and time-tables, and the odd reading matter which they might otherwise have to feast upon.

MR. J. D. GILL: If a man in San Diego asks for a ticket to Los Angeles, does the ticket agent try to sell him a ticket to San Francisco, for the same reason that the department store clerks try to sell a man a suit of clothes when he comes in to buy a collar?

MR. NORMAN COLLYER: The question which was asked in jest, I am prepared to answer in all seriousness. It would surprise you, I think, to know how many people come to a railroad ticket office to shop. In Southern California we have a large floating population from the Middle West, who are not people of large means, but who come out there during the winter to get away from the rigorous climate of the prairies, because they can close up their farms when there is nothing to be done, when the land is covered with snow, and they can come to the beaches of Southern California, rent a bungalow, and live cheaper than they can at home, even if in addition they pay railroad fare both ways. These people are the greatest ticket shoppers in the world. They go from one railway ticket office to another, and even to different agencies of the same railway, in the hope that somewhere, sometime, they may get a ride cheaper than they can somewhere else. Not only that, but there are any number of persons who go to a ticket office without any very definite idea of where they want to go, merely having made up their minds to take a trip. They do not care where it is; they want to be shown your goods, and that is where ticket salesmanship comes in. If you can show them the advantages of various points in an attractive way, and assure them that you can give them good service, you will get the business.

MR. J. D. GILL: I hesitated about asking the question, but I am glad I did.

MISS HARRIET R. FOX (Strawbridge & Clothier): I want to emphasize one or two points which Miss Kennard made, not because they need emphasis, but because only those of us who are engaged upon this problem can realize the needs of the case. I think most people are interested in department stores, not from the standpoint of training, but rather from the standpoint of what they receive by way of service, which is really the result of the training.

Department stores, like all other industries, are only beginning to work upon the personal side of service to the general

public. They have brought the organization to a very high degree of perfection in the way of buildings, equipment, comforts for the customers, better merchandising, better shipping, and they have left no stone unturned to bring from all parts of the world the very best merchandise, and to get the merchandise to our homes in the quickest and safest manner. Now the training of the personal element is beginning to receive attention. That, as Miss Kennard has said, is sure to come in every progressive store, but it cannot be achieved in a hurry. You may be able to make satisfactory machinists by teaching men mathematics and mechanical drawing, and by making the apprentices familiar with the various machines, how they are made and what they will do, etc., but you cannot make a satisfactory salesman by having him know simply merchandising, and the proper method of presentation of the goods. Even to know how to deal with various types of customers—and we recognize the fact the world is made up of all sorts of people—even that is not sufficient. We must give to salespeople in our training new ideas and thoughts, the material of which a suitable personality can be made. Personality is really the outward expression of the inner self. Sometimes I fear in our training we are apt to work upon the outside only. I know that that is necessary, but it is not enough. I recall a story which I heard many years ago, about a plain, little, brown wren, with its turned up tail, that envied the canaries with their beautiful yellow plumage and long straight tails. The little wren sought to make itself look like a canary by picking up some discarded yellow feathers and sticking them into its little brown coat and by tying a pebble to its tail to hold it down. The results were very sad. And yet, that is the way we try to teach salespeople and others a great many things. We try to add something to the outside but people cannot be educated by a process of veneering. I admit there are some rules of speech and of conduct which can be learned and observed that way.

We can say to salespeople that certain things must be done in a particular way and with some we may arouse a sufficient interest for them to go ahead and develop, but with the majority there must be more than that. Frequently, that sort of training is all that can be given in a retail store, and it will bring about a certain degree of improvement in the service. The training

in merchandising, and in the theory and practice of retail selling, are, however, simply the beginning of training. To get the ideal salesperson there must be a long training, a long period of association between teachers and students, to put into the individual new ideas.

The retail salesperson must know how to handle fractions and how to make simple mathematical calculations. He should know the history of the merchandise he handles and how to talk about his goods, but these things alone will not make a good salesman. He will give out only what he has first taken in, and there are other impressions that must be received and in a very much fuller form. We, as teachers, must give the salespeople different viewpoints about people and work and life. That can come only as the result of long training. It may sound strange to you, but in my opinion, an English course is the best medium for training. An English course may be made to cover anything from good grammar to an appreciation of what is best in all things.

That is only one of the things which may seem irrelevant, and yet which has resulted in giving many ideas to students. We must plant in the mind new material which will work itself out in the largest and best attitude toward life and work. When we couple that with a study of the actual stock to be handled, and the mechanical ways of handling things right, then we shall have something nearer the ideal salesperson, but such a salesperson is long in the making.

There is one other thing which is necessary. I think every one feels the great need of knowing how to educate those in charge of groups of salesmen, that they may be not only non-obstructive, and not only tolerant; but that they may be sympathetic, and co-operative. We want them to encourage the people in their departments to take the educational advantages that are offered, and we want them also to do some of the teaching. That is the hardest part of the department store educational problem, but we have reason to believe that this too will be in a measure accomplished at a not too distant date.

DR. LEE GALLOWAY: Miss Fox surely typifies that which those of us who are engaged in this work take as our standard, our ultimate hope, in this work. I think it would be interesting if we might have the privilege of calling on Miss Fox's boss, because he is the inspiration behind her.

MISS FOX: He is himself a fine example of development and education.

DR. LEE GALLOWAY: You are Exhibit A, and he is Exhibit B.

MR. HERBERT J. TILY: Miss Fox, I think, has hit on the real need. I believe that most stores, probably like most engineering and other institutions, are tending just now to spend time with the rank and file that we ought to spend with the men higher up.

I am going to tell those of you who are identified with engineering and manufacturing institutions and transportation companies one trouble of the department stores. It lies often with the buyers who are spoiled individuals. I can probably tell you in the two minutes allotted to me just why a buyer is spoiled. He is most frequently taken from the ranks, and is usually a man who did not have the educational advantages that the young men in the store today have. He drifted into the store, early in life, asked for a position as a cash boy, at \$2 or \$3 a week, got it, showed earnestness and zeal, and was pushed along. He got to a point where he showed a keen knowledge of merchandise, and then the old buyer of a certain department died, and he was put in the place of that buyer.

As one of the rank and file, he ate his meals in a ten-cent chop suey house, possibly, smoked two-cent cigars and traveled on trolley cars. Within a few months, comparatively, after he had to count the money he had to spend by nickels and dimes, by chance he gets into a position where he has the overseeing of an expenditure of hundreds of thousands a year, and he becomes a man to be made love to by everybody. He is made love to by everybody. He lives in the best hotels, travels in the best conveyances, and it is only a short time after he is made a buyer, until he owns an automobile, begins with a Ford and ends up with a special car on one of the Southern Pacific Railway trains. He is looked upon as a great man, and if the times favor the particular department in which he is, he makes a large turnover in merchandise, and at a good rate of profit.

He is often by this very prosperity spoiled for the firm which employs him. If he is called into a conference, he attempts to direct everything that takes place in the store from the standpoint of the uneducated man. His favorite phrase is—"I want you to understand I am the best buyer of my line in the market.

and I am going to do things this way. I know how to do it and make money." That is the man whose advice is oftentimes asked by firms as to what shall be done in the way of education.

You must develop the sales departments throughout the stores, as many manufacturing institutions and the railroad companies develop, from top to bottom. You must teach the higher officials to recognize that the salesperson is a producer, that the salesperson is a man or woman who is part of the whole method of production, that production beginning somewhere away off in a corner of the world where the artist has finished his product, and the product is continued along through various means of transportation to the buyer, and that the salesperson is not quite the last to enroll, the last in the chain, of the processes by which the article has been produced, and the salesperson must be taught to produce that merchandise which is needed by the particular customer and produce it in best way possible.

Develop that idea, and get it into the heads of the men who have control over these people, that they must not be judged by what they want them to sell in the greatest quantity and in the shortest space of time, that that is not all the game; to do business is to consider the selling part of a store organization as a part in production, and see to it that those higher up hold their positions by virtue of their understanding that the salesperson is an important cog in the process and must give satisfactory service.

This is the ideal that some of us have—that sometime during the next generation there will be no executives in the store who have not been either through the store school, and who have demonstrated, by having taken the store's course, their commercial efficiency, or who, on the other hand, having gained the requisite education elsewhere, have submitted to an examination which shows they are commercially efficient units in the organization, and that because of this they are promoted.

Then you will have in charge of all these groups of younger men and women more efficient educators.

You have a simple problem in engineering, because you must have an engineer in charge. We have a very difficult problem, because the temptation is to take the man nearest at hand and place him in charge. The ideal which I believe is in the minds of a great many important store keepers in the country is to see

to it that every man in an executive position is commercially efficient, and that part of that efficiency includes not only the teaching spirit, but a certain amount of pedagogical knowledge which goes with it, so that he is carrying on the work of education which began with the young boy or girl or the salesperson in the store school. The necessity for teaching never ends. If you will consider how much more difficult and intricate are the problems of the storekeeper, with changing events and changing demands, how he must keep up-to-date, and that the salespeople must be drilled by these store managers from day to day and from week to week until they are saturated with what is right, you will understand how much more difficult a problem we have, but I repeat that the ideal is to have in charge of all departments adequately educated men only.

DR. LEE GALLOWAY: We will all agree that Mr. Tily is a good exhibit of a manager who is thoroughly in sympathy with education. We have another exhibit in the audience, if I can get him to speak. He is a manager who has given a good deal of attention to education and really believes in it, and is earnestly trying to find out the best way to do it. May we have a word from you, Mr. Robbins?

MR. CHARLES ROBBINS (Westinghouse Electric & Manufacturing Company): I do not know why I have been called upon, because my knowledge of the subject of retail salesmanship is very limited.

We do desire to endorse the remarks of the last two speakers. If we have learned anything in our efforts to train salesmen, it is that the trainers should first know the requirements of their subject. In our attempt to teach salesmen how to sell, we find out, ultimately, that we do not know thoroughly the art of teaching so difficult a subject as successful salesmanship. We have been able to bring to conclusions some of our plans, but we have not wholly hit the mark. In our work we have fairly well covered the theoretical phases of salesmanship, but to my mind they do not fully cover the mark, because the theory of salesmanship usually starts on the assumption that you must sell everybody you interview; that you must persuade a prospective purchaser to buy that which you have to sell. This assumes perfection which is not ordinarily attainable.

Fundamentally, I believe we must establish salesmanship on

some other basis. It must be backed up by service to the customer, and an effort made to obtain a customer for the initial sale if it is possible to do so. Failing in this, we should also leave in his or her mind the fact that the establishment that we represent desires to build up a future business with that particular customer, and should we lose the first sale, we wish to leave in his mind the idea that the next time he desires something in which we deal, he will at least know where to go, and be sure of a satisfactory reception, and receive real sales service.

That means we must develop in the mind of sales people generally, a desire to become part of the business. They must know the business from A to Z, in order that they can successfully handle the different situations that are likely to arise. We very often meet situations where we do not have the exact product asked for. We would then, therefore, like to leave in the mind of the possible customer such an impression that they will come back to us and give us a chance the next time they may be in the market, and unless you have a proper supervision and give a thorough training to your sales force you cannot create such a feeling in the minds of the buyers.

In our sales organization we have District Office Managers and below them Division Managers, who are required to train their men in such a way that they will develop business, not only directly, but indirectly, and they seek to do this by developing their standing in the community, so that they will be in thorough touch with customers who are likely to purchase our product.

We speak with a good deal of hesitation, because in the last three or four years we have started several schemes of salesmanship training work, and in promoting each one we thought that we had the ultimate answer. We have concluded however, that we did not know as much about training successful and efficient salesmen as we thought, and have come here today with the hope that we might find at least some further ideas on which to begin with renewed force and effect the training of specialty salesmen. We are at it very hard, and we hope some day to find the answer to the human element in salesmanship.

MR. R. H. WRIGHT: I would like to give a little experience which I had, not in selling, but in buying. I give it because it shows the contrast in selling methods, and what I consider

equally important, backing up your selling methods. I had occasion to buy some furniture some months ago of two of the representative department stores in New York City. I went to one, and the salesman was a very pleasant person. He knew a lot about furniture and the history of furniture. It developed in the conversation that he had been taking a course in medieval history and modern history, with the special purpose of studying up furniture, what had influenced its design, and so forth. and he made a fine salesman, I considered.

In the other store, however, the salesman was of the ordinary class,—he just sold. It happened that the furniture had to be delivered in the country by automobile, and in the case where we had the pleasant salesman who knew his business, the delivery was very inferior—the furniture was not properly wrapped, and arrived in a scratched condition. In the other case, that of the ordinary salesman, the furniture had been packed as if for freight shipment, and arrived in perfect condition.

It seems to me that to be effective salesmanship must be backed up by the service of the corporation, and personally I would be inclined to do my future purchasing in the store which made good deliveries, although there was only an ordinary salesman rather than in the one which had good salesmanship but delivering goods in an unsatisfactory manner.

DR. HENRY C. METCALF: Both experiences illustrate the organic in business. May I add my experience.

I was in a hotel last winter and on leaving the cashier said—"What, this is all you had, Mr. Metcalf, no extras?" I said, "You take my word for it, do you?" He answered, "Yes." I inquired—"You find it good business, do you?" He replied, "We do." In view of what was said about the selling of railway tickets, I recall that.

I was at the hotel some time later, and my bill was presented, and I recalled that I had had two telephone calls from my room, and the calls were not recorded on the bill. I called the cashier's attention to the fact—a lady cashier—in the other case it was a man. She asked me how many calls I had, and I told her, and they were put on the bill.

I was in a restaurant, and after finishing my meal and about to go, and I asked the salesperson who served me for my check, and she told me to pay at the cashier's desk, and as I went out

the cashier said—"What did you have?" I told him, and paid the amount called for.

DR. W. D. SCOTT: I think the different kinds of salespeople have an analogy to the different kinds of medicine. There is the Christian Scientist who says there is no pain, that there is no possibility of pain, that everything is joyful, and then there is another kind of medicine that inoculates us with typhoid fever and smallpox, and when I think of some of the clerks that I know and try to compare them, I think of those remedies which are termed "counter irritants."

THE CHAIRMAN: May I take that last speech as an indication you all want to leave? Is there any one else who would like to say something?

MR. J. E. BANKS: I wanted to recite a certain psychological experiment. I went to a store to buy a head of lettuce. I was told before I left home I could not get head lettuce for the same money we paid for the ordinary kind. I said to the Italian woman—"I must take this home to some one else, give me head lettuce so that my wife will tell me it was better than she could get for the same money," and the Italian woman did it.

I bought a suit of clothes some time ago, and I said to the salesman—"I do not pay enough attention to my clothes to know what looks well on me, and I must take them home. This suit of clothes must go home for some one else to see, and if it is not all right in her estimation, it will come back again."

In that way, it was evident that the salesman gave me much more attention.

COMMITTEE ON OFFICE WORK SCHOOLS

MR. GEORGE B. EVERITT, *Chairman*
NATIONAL CLOAK & SUIT COMPANY
203 West 24th Street, New York City

DR. LOUIS I. DUBLIN
METROPOLITAN LIFE INSURANCE COMPANY
New York, N. Y.

MR. R. H. PUFFER
LARKIN COMPANY
Buffalo, N. Y.

MR. H. A. HOPF
PHOENIX MUTUAL LIFE INSURANCE COMPANY
Hartford, Connecticut

MR. FREDERICK UHL
AMERICAN TELEPHONE AND TELEGRAPH
COMPANY
New York, N. Y.

MR. WILLIAM R. DeFIELD
MONTGOMERY WARD & COMPANY
Chicago, Illinois

THURSDAY—MORNING SESSION.

OFFICE WORK SCHOOLS.

THURSDAY MORNING—JUNE 1ST, 1916.

SECRETARY LEE GALLOWAY, *Presiding.*

THE CHAIRMAN: Gentlemen, we now come to order for the consideration of the report of the Committee on Office Work Schools. As you know, Mr. George B. Everitt, who was the Chairman of this Committee, felt it necessary to leave his daily work as well as the work of this Committee when it was about half finished. Nevertheless, the Committee appreciates the work Mr. Everitt has put forth in the interests of the Association, and the interest which he has had at all times in the Office Work School. His work was taken up by the Acting Chairman, Mr. Hopf, and we expected him here this morning, and knowing Mr. Hopf as I do, I know nothing but dire circumstances of some kind could have kept him away from the meeting. We have, however, an able representative of this Committee, which as a whole is one of the strongest committees of the Association, every man upon it is eminently fitted to consider this work from the practical point of view.

As I pointed out yesterday, our work naturally divides itself into three parts. We have the production side and the distribution side, and between them we must have a coördinating element. This last I have defined as facilitating activities. It seems to be a natural division of a business organization and upon them we have based our distinctions with reference to our educational programs. Now, whether or not it is due to the peculiar character of the people in the office, whether because of their previous training, or to the ability of the management to hold the office forces together makes these people peculiarly amenable to organization and class work, I am not able to say, but I imagine it is true that you can organize the facilitating activities of the office somewhat better, for instance, than you can organize the work in connection with the salesmen, especially those who are out on the road.

The report, as I see it, and it will be presented this morning by Mr. Puffer, is one which deals with the practical educational material that you have got to give the people in the office; in short, the "educational dope." At the same time it presents methods and the selection of teachers, and discusses some of the difficulties which are connected with them. These are all vital problems to those of you who are trying to carry on the organized work and semi-organized work under the difficulties which present themselves, and I shall feel rather disappointed if you men that are handling the pedagogical end of this practical education work do not have something to add in the way of constructive argument in the organization and promotion of class organization in connection with this work, not necessarily in connection with Office Work Schools, but class organization generally, since here is a good place to introduce this subject; Office Work Schools lend themselves to organization, and can be treated as a matter of organization, perhaps better than any of the other classes we have been considering before. We will now have the report presented by Mr. Puffer of the Larkin Company.

MR. R. H. PUFFER: I attended a baseball game the other day and sat beside an Englishman. It was his first experience at an American baseball game, and he asked me a number of questions, why we called the outfield a garden, why we circled the bases, how we counted the scores, and many other such questions. He didn't know anything about a baseball game but he was determined to find out and he did.

Some of you who are here this morning may not be familiar with the work that is being done by the Corporation Office Schools, but if you are as interested as the Englishman was in the ball game you will find out.

When a subject is open for discussion it usually takes four-fifths of the allotted time to get warmed up and then one-fifth of the time is spent on the real discussion. Let's change this method this morning.

The Committee on Office Work Schools discontinued this year that part of the report in which the subject of accounting was treated, because accounting should not be considered with the Office Work School, but as a separate subject for intensive study and analysis.

We have attempted to give an outline in this report which can be used as a guide for organizing an Office School.

On page 559 we have shown why Office Work Schools are organized, the method of instruction, etc. Then we have taken up the big question—How to get teachers—the deciding of which makes the school a success or a failure.

There are two plans as we have shown on page 560:

- 1—Trained teachers are employed, who study the work they are to teach, and then teach it.
- 2—Selected clerks, who know the work, are trained to teach.

The first is the generally accepted plan.

After the teachers have been selected the next problem is to arrange the work so that it can be presented in a methodical way and not be difficult for new people to learn.

At the school of the Larkin Company we arrange our work in lesson form and find that these written lessons make our teaching work much easier.

In this report we have given an outline for a Correspondence Manual, a Filing Manual, Complaint Manual, etc. These outlines should be valuable to people interested in Office School Work.

A teacher in Arithmetic once asked his class,—“How many make a million?” A small boy raised his hand. “All right, Frederick,” said the teacher—“How many make a million?” “Not many” the boy replied. That is the way with reports, not many Committees make good reports or else many reports are not necessary.

It takes time and energy to draw up reports and they are valuable if they are usable.

But if they are taken home and put into the lower drawer of the desk, and at the end of the year the stenographer is told to clear out the desk, so that the following year's report can be put into the same drawer they are not of much value.

We recommend that you people interested in Office School Work, study this report carefully so that you can put the parts this morning ought to bring out the parts which are not valuable, so that the Committee next year will have something to work on and be able to make a better report.

REPORT OF COMMITTEE ON OFFICE WORK SCHOOLS

The Office Work Schools Committee, consisting of Messrs. Everitt, Uhl, Dublin, Puffer, DeField and Hopf, presents the attached Final Report covering its work for 1915-1916.

The Committee acted under the following instructions from the Executive Committee of The National Association of Corporation Schools:

"Assuming that the last report of this Committee has formed a part of a syllabus, extend your syllabus as suggested by Dr. Dublin, page 5, volume 1, number 4, of "Industrial Education," the convention daily published at Worcester. Also add any syllabus covering other specific office work and accounting duties, and detail a typical course covering all subjects embraced in office work—office work schools should include classes for the training of correspondents—and elementary subjects in accounting, and quote typical textbooks."

Early last Fall a meeting was held at the office of the Chairman, Mr. George B. Everitt, in New York City, at which meeting a majority of the members of the Committee were present.

In addition to extending the manuals covering Filing, Stenography, Typewriting, Phonograph Operation and Correspondence, it was decided to prepare outlines covering a Complaint Manual, and also Office and Messenger Service. Furthermore, the Committee thought it well to draw up a manual which would cover the organization of an Office Work School. While this task was not included in the instructions under which the Committee was acting, it was, nevertheless, felt that such a manual might prove valuable to companies contemplating the installation of a school for office workers. Finally, the Committee thought favorably of the plan to develop an outline for an inspirational manual covering "The Place of the Employee in the Organization," this outline to refer, among other matters, to the qualities which make for success in the business world.

As far as the specific subject of Accounting is concerned, the

Committee felt that this was a subject to which a great deal of study had been devoted by educational institutions and private individuals, and that many standard books and courses covering the subject had been prepared. Consequently, the Committee was of the opinion that it should not devote any effort to the development of the subject of Accounting, and that it should be withdrawn from the scope of the work of the Committee. A recommendation along this line was made to and adopted by the Executive Committee.

The individual committee members, in line with the understanding reached at the first Committee meeting, have prepared the various manuals which were assigned to them, and during the course of the winter the Chairman, Mr. George B. Everitt, kept in touch with the work by means of correspondence, it being impossible on account of the widely separated locations of the members to bring the full Committee together again for another meeting.

Before the time scheduled for the submitting of the report of the Committee to the Executive Committee, the Chairman, Mr. Everitt, was obliged to leave town on an extended visit to the South, and the undersigned was therefore requested to complete the report in Mr. Everitt's absence.

As no opportunity presented itself for further discussion with Committee members, it should be understood that the material submitted in this report has not had the benefit of revision by the entire Committee. It is, however, thought likely that the material submitted will prove an acceptable addition to last year's report, as it represents a logical development of the work.

The sections of the report are divided as follows:

A.	Outline for the organization of an Office		
	Work School	Pages	5 to 10
B.	Outline for Correspondence Manual.....	"	11 " 20
C.	Outline for Filing Manual	"	21 " 30
D.	Outline for Manual for Stenographers, Phonograph Operators and Typists.....	"	31 " 57
E.	Outline for Complaint Manual	"	58 " 69
F.	Outline for Manual for Office Boys and Messengers	"	70 " 73
G.	Bibliography	"	74 " 80

Outlines for an inspirational manual were submitted by two different members of the Committee, but on account of lack of opportunity to discuss the material in Committee, it has been thought best not to include it in this report, but to leave it for further development to next year's Committee.

Respectfully submitted,

H. A. HOPF,
Acting Chairman.

Hartford, Connecticut.

April 24, 1916.

A.—OUTLINE FOR THE ORGANIZATION OF AN OFFICE WORK SCHOOL

INTRODUCTION

Emerson says: "The truest test of civilization is not the census, not the size of the cities, not the crops, but the kind of man the country turns out."

The truest test of an Office Work School is not the accuracy of the files, not the speed with which the work is done, but the state of development its finished pupils reach.

Ideals for an Office Work School.

1. To inspire ambition and a wholesome respect for honest work.

2. To mould the character, habits and principles of life of the young people new in the business world.

3. To help and develop business thinking; to build a foundation for specific office work; to instill a regard for system and to cultivate a habit of attention to details, thus improving the efficiency of the business.

4. To teach principles which will make better men and women for the future.

PLANNING THE OFFICE WORK SCHOOL

I. *Scope.* Whether office work is to be taught to the exclusion of all else should be decided.

Office Work Schools need not be, rather should not be, confined to training for office work. If the school is used to give general information, greater interest and accuracy can

be developed. Employees will be made to feel that the Management is interested in the education of *all* clerks rather than the few assigned to office work.

These "general information" courses, covering the methods, policies, history and other interesting facts about the business, would be a source for inspiration and development. A greater opportunity for fitting "square pegs into square holes" is offered; loyalty and enthusiasm can be fostered; the School becomes a force for progress and unity.

At the outset, in addition to a recognition of the specific training given a few clerks, a broader idea of the usefulness of the School should influence the plans.

II. *Objects.*

1. To train new employes in performing certain duties to which they have been assigned.
2. To prepare old clerks in the handling of more complicated work.
3. To train all clerks in matters of general information.

III. *Instruction Plan.* There are two general plans now in use:

1. School-department plan: This consists of making the School a miniature of the office department, usually by handling all transactions from a given territory in the School. This adds to the School idea, the fact that it is a *department* actually producing, the same as others.

Under this plan the employe spends all his time in School until qualified to work in the regular department. One disadvantage of this plan lies in the difference in atmosphere and surroundings of the School and the department. When transfer is made to the department, unless the facts become known in time, discouragement and resignation may result. It is also possible that with training of this kind, the work in the School department is more "refined" because of the specialized handling it receives, making the actual conditions encountered in the departments unprovided for.

2. Period plan: This consists of School instruction for a portion of the day, after which the employe reports to his department, and what he has learned is put into practice

under actual conditions. In the classroom as much time as possible is spent on regular work, using the same materials as in the department. In the departments, at first, the work is sorted so that only the known cases are handled, but as the instruction progresses, this becomes less and less necessary.

Most corporations will probably decide on a combination of the two plans. The first is best for the new employes; by keeping them in School entirely for the first few days, any feeling of being "shoved around" is prevented. The time is well invested in instruction regarding the rules, policies, and ideals of the company; its history, its size, and the names of people now in control, and their positions; trips to various departments should also be made, more to give ideas about the company than about the particular departments visited. The second plan is more effective after this introductory period, and in all cases where old employes are being trained in more advanced or complicated work.

IV. *Selection of Teachers.* Here, again, two plans are in use:

1. Trained teachers are employed, who study the work they are to teach, and then teach it.
2. Selected clerks, who know the work, are trained to teach.

The first is the generally accepted plan, for these reasons: The preparation of a trained teacher enables him to learn a new subject more quickly than an untrained mind, and at the same time pick out his "teaching points" (usually his own difficulties); for the same reason that he learns more quickly he can master more than one subject, thus increasing his value; and at best, the training in teaching methods that could be given a clerk would be but superficial, as the length of the normal courses indicates.

V. *Costs.*

As no business organization attempts to operate a department without an adequate cost system, provision for obtaining figures should be made at the start. In this connection, it should be noted that the School is a many-sided department, producing (actual work done in School), operating (sugges-

tions, investigations and criticisms affecting system or operation made by the teachers during their work), education (the reason for its being).

The points suggested in the outline below have been selected, as they have been the rocks on which the pioneers in this movement nearly grounded. A little thought will show that many of these are the things usually criticized in any new idea or department. After the School has been started, there are a few cases where dissatisfaction has resulted from other causes. Without question, the personal element is a strong factor in settling most of these difficulties.

VI. *Personnel.*

1. Manager:

- (a) Title: depends usage in the company.
- (b) Requirements: executive ability, selective ability, tact, personality—the general requirements of a department head, as well as the special requirements of a School principal, covering the ability to schedule classes, arrange for passage of employes through corridors and on elevators; supervision of attendance and punctuality, etc.
- (c) Powers: how far suggestions may put into operation is a matter to be clearly defined (see headings under "Relations," below).

Because of the nature of the School work, suggestions will naturally come from this source, affecting:

- 1. Eliminations and transfers of clerks.
- 2. Existing system and operation.
- 3. Organization, sales, merchandise.

2. Teachers:

- (a) Experience and training.
- (b) Ability: first and foremost, ability to impart knowledge to others; capacity to retain a perspective of the entire subject and handle details successfully.
- (c) Personality: strength of character, courtesy, sympathy, enthusiasm.

3. Clerical Assistants: Stenographers, File Clerk, etc.

VII. *Relations with Other Departments.*

1. The boundaries within which the School department may act independently.
2. The relation of the School to the Employment and Welfare Offices should receive definite attention.
3. The relation of the School to the departments whose work is being taught ; this applies particularly to differences in operation or system reported to the School by clerks, improvements that are suggested by the School, etc.
4. Relation of the School to the Planning Department or System Office or to the Supervision of Operating and System methods.
5. Responsibility for students' lateness and absence in School.
6. The relations with the departments whose employes are attending for general information.

VIII. *Equipment.*

1. Classrooms and teaching materials :
 - (a) Number, size, furnishings, etc., including teacher's desk and chair, students' desks, chairs, blackboards, chalk and erasers.
 - (b) Stationery and supplies.
 - (c) Picture machine and other special teaching devices.
2. Subjects :
 - (a) Text-books, obtained from the usual sources.
 - (b) Illustrative material obtained from the departments doing work taught.
 - (c) Manuals or Company Text Books, giving information and instructions applicable to the Company's own work and methods.
 - (d) Lesson outlines with details for the Teacher.
 - (e) Lesson papers for the Students.

IX. *School Management.*

1. Preliminary Class Arrangements :
 - (a) Kinds of work being done by enough people to warrant the formation of classes in the subject.

- (b) Number of people to a class.
- (c) Time of day sessions can be most conveniently held and with best results for the investment.
- (d) Length of sessions.
- (e) Length of courses.

2. Operation :

- (a) Obtaining supplies and arrangements for distribution to classrooms.
- (b) Arrangements for class; selection of students; grouping; in this connection consideration should be given to the "stand stills" and other non-progressive types; the preparation of the clerks for the subjects they are to study; notices for time and places of assembly.
- (c) Dismissal signals for period classes.
- (d) Arrangements with departments to be visited by classes, so that time is convenient and as little disturbance as possible is caused.
- (e) Classroom methods: may be standardized or left to the teacher. Just how far individuality or standardization is the rule should depend upon the individual success of the teacher. The Department Head naturally reserves the right to suggest or introduce changes.
- (f) Arrangements with departments using School-trained help for reports of progress, so that individual attention can be given as required; also for follow-up by teachers.
- (g) Arrangements for School instruction. When changes in system are made so that proper understanding of all clerks is assured.

B.—OUTLINE FOR CORRESPONDENCE MANUAL

I. FOREWORD

CORRESPONDENCE MANUAL

TO BECOME A SUCCESSFUL CORRESPONDENT, IT IS ABSOLUTELY NECESSARY THAT YOU HAVE A CLEAR UNDERSTANDING OF THIS MANUAL.

Remember that the policy of the Company is "to deal fairly—to please every customer"—that you represent the Company—as far as the one to whom you are writing is concerned, you are the Company—that the Company's reputation depends to a large degree upon the manner in which you do your work.

Do not fail to realize your responsibility and give to your work the very best that is in you. If there is any point that you do not fully understand, consult your Department Head or the Chief Correspondent.

Always put yourself in the customer's place.

Do your part to carry out the Company's policy—"To deal fairly—to please every customer."

II. INTRODUCTION

Showing the importance of Correspondent's position—The Correspondent is a "Letter-Salesman"

The "Letter-Salesman"

The requirements for success in letter-writing are many, but none is more important than *Salesmanship*. Whether you are answering an Inquiry of a Complaint, or whether you are writing a collection letter, the principles of salesmanship are involved. So it is quite proper that our Manual should begin with this most interesting subject.

And in considering Salesmanship, the questions that naturally come to mind are: What are the qualifications that mean *Success*? What are the obstacles that stand in the way—the difficulties that must be overcome?

Perhaps the best way to answer these questions, to point out the road to success, is first to decide—*What is Salesmanship?*

"Salesmanship is the *manner*, the *method* and the *art* of *most economically* effecting the exchange of an article for money to the *equal* and *permanent satisfaction* of both buyer and seller."

And this definition is true whether the goods are sold by personal contact with the customer or whether they are sold by letter.

Every letter should be a salesman—and just what does that mean? Well, a good salesman must be a sincere and convincing *talker*; so must a good letter. A good salesman must be *neat in appearance*; he must be *courteous*; he must show that he *knows all about his goods*—that he knows them to be the *very best goods in the world* for the money. He must have *enthusiasm*; he must clearly and intelligently answer every question his customer asks about the goods. *And so it is with a good letter.* A salesman who lacks even one of these requirements is *not* a good salesman; a letter that lacks any one of them is *not* a good letter.

A good salesman puts into his work all the *earnestness* and *enthusiasm* in his make-up. He takes hold with a determination that grips, that turns "prospects" into orders. And *that* is exactly what the "*letter-salesman*" should do.

Letters must be perfect in grammar and in rhetoric, but something more is required—*they must sell goods*. And well-chosen words are not necessarily the magnets that bring orders. There must be *spirit, enthusiasm—salesmanship*.

Your sentences may be lined up as regularly as soldiers on parade; your grammar and rhetoric may be so perfect that the most exacting critic could find no fault—but unless *salesmanship* is there, unless your letters have the "reason-why" argument, they won't be the kind that produce results.

You should use plain, every-day words, plain thoughts, plain illustrations—but *what you say should hit straight from the shoulder*.

Don't grind out letters like a school-boy reciting his lesson. You must talk humanly *to* your customer—not *at* him. *Talk* to him just as you would if he were sitting beside your desk. You know what you would say if he were there. Is there any reason why you should say something entirely different when you write a letter?

Show *force* and *power*. A shirking, indifferent, no-account

letter is just like that kind of a person. One always feels that an apology is due for its very existence.

Use your heart as well as your head in this letter-writing. *Be humanly yourself—be natural.*

Do not forget that the people you are writing to are living, doubting, considering human beings like yourself. When you come to that realization, you will have gone a long way toward success in letter-writing.

The kind of salesmanship that would influence a customer to buy of a human salesman creates the same desire to buy of a "letter-salesman." It is common-sense argument, the kind that makes it plain to the customer that your goods are the goods he needs. It is the kind of argument that makes him say to himself—"that seems reasonable"—"that's so."

Leave nothing to be taken for granted. The simple, little, matter-of-fact points that seem so commonplace to you, may be just the things your customers want to know.

Grammar and rhetoric can be learned—*so can salesmanship*. It has been said that salesmen, like poets, are born—that the ability to sell goods is a natural gift. That is true, to a certain degree, perhaps, but it is also true that all of us can, to a great extent, master this most interesting art, this science of salesmanship. After all, it is only a mastery of the study of human nature.

Some "letter-salesmen" try to sell goods by telling their story in an empty, expressionless style. Their letters have no argumentative facts. Sometimes they make splendid beginnings, but except for these little flashes, now and then, the light of *interest* and *individuality* never enters. And as a rule these little flashes only make the general weaknesses plainer.

III. GENERAL INFORMATION

(A) Style Book or Catalogue—Gives information as to

1. Kind of merchandise handled.
2. Conditions or terms of sale; any special Guarantee.
3. Directions to customers for sending orders.

(B) Information Schedule for Correspondents—Giving a synopsis of technical information regarding weights, measure-

ments, colors, material, etc., which a Correspondent frequently needs in order to give correct information.

- (c) Mail received, assorted and distributed.
- (d) Classification of different kinds of mail.
- (e) Any special handling or system Correspondent should know.

IV. THE CONSTRUCTION OF A GOOD BUSINESS LETTER

- (A) Avoidance of stereotyped expressions.
Example: Your letter of recent date received and contents noted.
- (B) Useless words eliminated.
For example:
 1. Do not say, "Your order is in process of shipment." To the average customer this would mean nothing. Say, "Your order is being shipped."
 2. Do not say, "We regret to inform you that your order has been delayed." It is not the *informing* that we regret, but the fact that the order was delayed. You should say, "We regret that your order has been delayed."
- (c) Arrangement of facts—make a favorable impression first.
- (d) Paragraph structure.
- (e) Proper use of punctuation.
- (f) Sample letter of 69 words analyzed and criticized:

March 24, 1916.

Order No. 3 14 2273

Dear Mrs. Brown:

We have received your letter of March 20th and replying to same we would say that we have investigated our records and find that your goods were shipped by Adams Express on March 18th to Afton, Pennsylvania.

We regret that a delay was necessary and are disappointed to learn that you were caused inconvenience.

We hope that the merchandise have reached you promptly and that same are entirely satisfactory.

Yours very truly,

JOHN GAIL & Co.

Mrs. J. L. Brown,
Afton, Pennsylvania.

1. All paragraphs begin with the personal pronoun "We."
2. How could we be replying to this customer's letter of March 20th unless we had received it?
3. Never use "Same" referring back to a noun appearing earlier in the sentence.
4. Never say, "We would say" or "We would state." Say whatever you have to say without awkward or unnecessary prefaces.
5. Do not say that "We have investigated our records and find, etc." Of course we have investigated, or how could we have reached a conclusion? Furthermore, it would be an insult to the one to whom you are writing, if you communicated with him without taking the trouble to prepare yourself. Instead, simply say, "We find."
6. Do not say, "We regret to learn" or "We are disappointed to learn" when you have learned of annoyance or inconvenience which a customer has been caused. When anything has gone wrong, you should always be pleased to learn about it so that you may take steps to prevent similar difficulty in the future. The objection is removed, of course, by leaving out "to learn," making the sentence read, "We regret that you have had cause to complain of the service you have received."
7. Merchandise does not take a plural verb, but a singular one always. To say that "The merchandise *have* reached you" is, of course, incorrect.

This letter is much better expressed, in only 42 words, as follows:

March 24, 1916.

Order No. 3 12 2273

Dear Mrs. Brown:

Your goods were shipped by Adams Express on March 18th to Afton, Pennsylvania.

We regret that you were caused the inconvenience of writing us and hope the goods will not only reach you promptly, but that you will find them entirely satisfactory.

Yours very truly,

JOHN GAIL & Co.

Mrs. J. L. Brown,
Afton, Pennsylvania.

V. KNOWLEDGE OF WORDS

(A) The study of words—get the dictionary habit.

(B) Avoid pretentious terms.

1. Do not say, "We wish to acknowledge the receipt of your esteemed communication." You should say, "We are glad to receive your letter."

2. Do not say, "We trust the dress is in your possession ere this." You should say, "We hope you have received the dress."

VI. WORDS, EXPRESSIONS, ETC., NOT TO BE USED

For example:

<i>Do NOT Say.</i>	<i>Say Instead.</i>	<i>Reason.</i>
Enclosed herewith.	Enclosed (simply).	<i>Enclosed</i> can mean ONLY herewith.
At the present time.	At present.	<i>The</i> and <i>time</i> are unnecessary. Avoid unnecessary words.
Two pair.	Two pairs.	The plural of pair is pairs.
This quality goods.	This quality of goods.	In the first sentence <i>quality</i> is used as an adjective when it should be a noun.
The demand for these goods has been greater than we looked for.	There has been a great demand for these goods.	The first expression would indicate that we did not expect much of a demand and it would not, therefore, be good salesmanship.
You are due us \$2.00 or We are due you, etc.	There is a balance of \$2.00 due us, etc.	<i>Due us</i> in this connection is not good usage.
Your favor (or communication) has just reached us.	Your letter (postal card, telegram) has just reached us.	<i>Favor</i> or <i>communication</i> is not good. Some years ago <i>favor</i> implied a delicate compliment, but it has been so constantly used that this meaning has been lost.

<i>Do NOT Say.</i>	<i>Say Instead.</i>	<i>Reason.</i>
We shall try to always please you.	We shall try always to please you.	Avoid split infinitives.
You can make no mistake in selecting either of the three.	You can make no mistake in selecting any one of the three.	<i>Either</i> must NOT be used in referring to more than two.
We are anxious to know if you found everything satisfactory.	We are anxious to know whether (or not) you found everything satisfactory.	Do not use <i>if</i> in a subordinate clause in the sense of <i>whether</i> .
You have had the goods quite some time.	You have had the goods a considerable time.	Quite some, quite a few, etc., are not in good usage.
Our goods are different than others.	Our goods are different from others.	Avoid <i>different than</i> . Say <i>different from</i> .
We extend you our apologies.	We apologize.	<i>Extend</i> means to stretch out. It should seldom be used as a synonym of <i>give</i> .
We beg to acknowledge receipt of your order, etc.	We acknowledge (with pleasure) the receipt of your order.	<i>Beg</i> should NEVER be used in this connection.
Just as soon as we hear from you we shall send your goods at once.	Just as soon as we hear from you, we shall send your goods.	<i>At once</i> is unnecessary with <i>just as soon as</i> .
Our usual perfect service.	Our usually perfect service or Our usual, perfect service.	An adjective cannot modify another adjective.
On March 28th we wrote you stating that the dress you returned has not been received.	On March 28th we wrote you that the dress you returned had not been received.	Wrong sequence of tenses. Do not use a present perfect tense with a verb denoting completed action in past time.

VII. REPETITION DISTINGUISHED FROM EMPHASIS

- (A) Emphasis—Strength and sincerity given by repetition of word or thought.
- (B) Repetition—Great obstacle in usual sense. Overcome by enlarging vocabulary, thus gaining command of synonyms.

VIII. LENGTH OF LETTERS

- (A) Determined by nature of case.
- (B) Long letters to be avoided.

IX. INQUIRIES—PREPARATION FOR DICTATION

- (A) Letter carefully read and previous correspondence noted.
- (B) Customer's characteristics studied.
- (c) Reference to Style Book and Information Schedule.

X. OPENING PARAGRAPH—ONE OF MOST IMPORTANT PARTS OF LETTER

Should be interesting, salesmanlike, original. Stereotyped forms to be avoided.

Example: "Your letter of March 25th has been received, and replying to same we shall be pleased to have you order coat Style No. 9868."

Or—

"Replying to your letter of March 25th, we wish to state that we shall be pleased to receive your order for coat Style No. 9868."

Say instead: "Knowing, as we do, the exceptional value of coat Style No. 9868—how stylish, attractive and serviceable it is, we advise you by all means to order it. And a little later on, your complete satisfaction will prove that you have made no mistake."

Or—

"It is not surprising that you were attracted by the picture of coat Style No. 9868. Just think of this beautiful coat for only \$14.75; think of the delight, the service it will give, and also of the saving it will mean to you."

XI. CONCLUDING PARAGRAPH—ALSO AN IMPORTANT PART OF LETTER

Stereotyped forms to be avoided.

Example: "Awaiting your reply with interest."

Or—

“Trusting that we shall be favored with your order,”
etc.

Say instead: “It is not simply because we want the order that we are anxious to send you these goods. That’s one reason, of course; but we want most to show you what complete satisfaction buying from us really means. You have our Style Book. Do not lose this opportunity.”

Or—

“The coat you have asked about is one of our most beautiful models, and it is one of our best values, too. You could not make a better selection.”

XII. ADJUSTMENT MAIL—COMPLAINTS

- (A) Knowledge of principles governing adjustment.
- (B) Tact, good judgment, patience necessary.
- (C) Importance of keeping the customer’s good will.

XIII. FOLLOW-UP LETTERS

- (A) Principle same as those of individual sales letters.
 - 1. Attracting attention—first paragraph short and interesting.
 - 2. Creating desire. Average man is not interested in your product. You must arouse interest.
 - 3. Convincing the mind of the prospective buyer.
 - a. Appeal to his reason.
 - b. Show how your plan works.
 - 4. Stimulating action.
 - a. Making ordering easy.
 - b. Use of testimonials, depending, of course, on the kind of product being sold.
- (B) Plan to be followed dependent upon
 - 1. The nature of the proposition.
 - 2. The class of prospects.
 - 3. The cost of the article and margin of profit.
- (C) Number of letters in series dependent upon proposition.

(D) Points to be covered in each letter.

Example: One descriptive letter.

One to answer possible objections of the buyer.

One to answer the objection to expense.

One to "clinch" the order.

One general "good-will" letter.

XIV. CONCLUSION—THOUGHT—IMAGINATION—CONCENTRATION AND EFFORT—THE FOUNDATION FOR SUCCESS

For example:

Thought, imagination, concentration and conscientious effort—if you build upon these foundations, there is no reason why you should not succeed. Development means success, and there can be no development without effort; it will come only from determination, from application, from earnest and consistent study—from *good, hard work*.

The trouble with most of us is that we do not *train* ourselves to *think*. Some do not go to the bottom of things. Others never learn the art of concentration—of bringing the best that is in them to bear upon the duty at hand. To attain that requires personal discipline. Still others seem to be devoid of imagination—of creating anything original. That is a serious failing also, but good reading and careful study are sure to improve the condition.

You must have originality. You must be able to think accurately and quickly. You must have the faculty of *creating ideas*. You must have sales ability.

If you do not already have these very necessary qualifications, *you must develop them*, for you cannot be successful without them.

Those of us who are mentally alert can gain dozens of valuable ideas in our daily lives both in and out of the office—ideas that will be of inestimable value to us in our work.

Learn to think and to act for yourself. Self-reliance is a virtue. Lack of it is a weakness. Do not be a mere echo or imitator. You cannot attain excellence in anything without patient and laborious study. That which costs nothing is usually valued at nothing. *The things most worth while are those for which we work hardest.*

C.—OUTLINE FOR FILING MANUAL

I. FOREWORD—IMPORTANCE OF FILE CLERK'S POSITION

For example :

FILING MANUAL

TO BECOME A SUCCESSFUL FILE CLERK, YOU MUST THOROUGHLY UNDERSTAND EVERY DETAIL OF THE INSTRUCTIONS IN THIS MANUAL. THEY ARE A GUIDE TO YOU SO THAT YOU MAY DO PERFECT WORK.

Filing is only of value if you can *find the papers when you want them*. This means accuracy in placing papers in file, and care and thought in looking for them when requested.

A *Lost Record* may mean a *Lost Customer*. Prevent this; then you are fully realizing your responsibility; you are carrying out the Company's policy "To deal fairly—to please every customer."

II. INTRODUCTION

Filing points in general:

File Cabinets—

Sightly, neat receptacles for valuable records.

"A place for everything and everything in its place."

Index Cards for Headings and Sub-headings—

To aid in quickly locating records desired; unnecessary papers are not handled in the search.

(A) Methods—

Flat filing:

Papers are laid flat in low, flat drawers. Designed and practical for large sheets, blue prints, maps, etc.

Vertical filing:

Wide, deep drawers for correspondence or miscellaneous data, so constructed as to allow material to be filed on edge with or without the use of guides or folders.

(B) Systems—

Alphabetic	Numeric
Alphabetic—Numeric	Subject
Decimal	Direct
Geographic	In conjunction with index

III. POINTS FOR THE BEGINNER

(A) Filing Equipment.

File Sections arranged to divide the work about equally.

Kinds of filing material separated, such as:

Cards—

Small drawers.

Sheets—

Low, flat drawers.

Correspondence—

Wide, deep drawers.

(B) Filing Systems.

When installing a filing system, it is essential that the one selected shall meet the requirements of the organization.

Give instructions as to filing in front or back of Index or Guide Card.

Give instructions as to *what* papers are to filed and *when*.

1. Geographic.

Papers to be filed are to be assorted into the headings under which you file. For example: State—Town—Name.

2. Alphabetic.

General correspondence file, when name of correspondent is of most importance.

Equipment—

The following combination of guides and folders is practicable:

Direct alphabetic guides with tabs and projections arranged in three rows at the left. Next, a wide-tab individual folder for active correspondents, and back of this a miscellaneous folder bearing the same designation as the guide, for the miscellaneous correspondence of that division.

For example:

Ba (guide)

Baker, G. T. (folder)

Barber & Sharpless Co. (folder)

Bascom Mfg. Co. (folder)

Ba (folder for miscellaneous correspondence)

The advantage of alphabetic filing is that it permits of a direct reference to the file, and papers are therefore filed and found in a minimum amount of time.

3. Numeric.

Purpose of a numeric file:

The subject-matter of correspondence may be of as much or more importance than the correspondent, and many correspondents may refer to one subject. A method of bringing all related papers together—catalogs, contracts, correspondence, drawings, invoices, leases, etc., is therefore advantageous in many types of business.

A card index is required in conjunction with the numeric method.

For example: The subject or correspondent of the first papers, in starting a new file, would be marked "1" in the upper right-hand corner; an index card carrying the name and address of a correspondent and the file number is written and, if a subject, the title is written, and file number. The card is then filed in alphabetic sequence in the card index, and the papers in a folder marked with the correct file number. A guide inserted every 15 or 25 numbers facilitates handling.

All papers are located by reference to the index number. The index furnishes a complete reference list of all names, addresses, etc., of those with whom the firm transacts business.

Equipment for Numeric File:

Deep, shallow trays for correspondence folders.

Guides of heavy press board, with celluloid or metal tips.

Folders of heavy manila stock.

Small drawers for cards.

3 x 5 card index, alphabetic.

The average mind will work more rapidly with figures than with combinations of letters.

Note: See VIII. Cross Referencing (page 27).

4. Alphabetic-Numeric.

(a) A simple alphabetic-numeric method is a direct alphabetic file with numbers assigned to each *guide* in consecutive order, starting with 1.

The purpose of an alphabetic-numeric file is

- i. Elimination of errors in filing, so prevalent in the alphabetic method.
- ii. Elimination of time spent in maintaining and operating the card index as in conjunction with the numeric method.

In the method described above the numbers represent only a general location, and the individual paper would necessarily be filed back alphabetically.

There are several Alphabetic-Numeric Filing Systems. The one known as the "Automatic" has proven successful, and the principle of the system is quite simple. There are two groups of guides, the main alphabetic guides for indexing surnames, in sets of 20, 40, 60, 80, 125, etc., divisions, according to the material to be indexed, and the subordinate alphabetic guides for the given names in sets of 9 for each surname guide.

(b) On each guide card is given the key to the system.

The following rules must be observed:

- i. Look up the surname guide number, then the given name number, and put the combined number upon each letter.

For example: To file a letter from Arthur Crawford, we first find that Cr is number 250 and that Arthur coming in the A-B division is number 1. Thus we enter 251 on the letter.

- ii. After all numbers are put upon letters, file in their respective groups and check according to numeric sequence.

- iii. Put all miscellaneous correspondence in a miscellaneous folder at the end of the group of folders, under the surname or given name guide which it should follow.

- iv. Put all papers to be filed by subject in a subject folder at end of group of folders, under the surname guide which it should follow.

- v. Examine files periodically for errors.

IV. ESSENTIALS FOR ACCURATE FILING

Accuracy of filing is almost the sum total of requirements. Filing may as well not be attempted, unless the filing is accurately done. For this result, the following qualities are essential:

- (A) Thorough understanding of alphabetic sequence.

For example:

That P is after O and before Q; that *Nad* is filed before *Nan*.

- (B) Ability to read handwriting of all kinds.
- (C) Ability to interpret signatures.
- (D) Ability to quickly get the gist of what customer means.
- (E) Use of folders for making uniform filing unit for uneven papers. Folders for horizontal and vertical filing.
- (F) Papers should be of uniform size. Memoranda, clippings, etc., should be neatly mounted upon letter-size sheets in the correspondence-size file.
- (G) Rapid execution of the duties assigned, following the above.

V. AIDS TO EFFICIENCY

The equipment, properly used, will greatly assist in obtaining the efficiency desired.

- (A) Quietness. Best results are obtained if filing cabinets are segregated from the general office, if only by using them as a natural barrier.
- (B) Freedom from interruptions. File sections arranged to divide the work about equally. By assigning all the work in a particular section or group of units to one clerk, rather than a particular piece of work to each clerk, covering all of the files, the inevitable confusion of contact or interference with one another will be avoided. Besides, this places directly on one individual the responsibility for the accurate upkeep of a special portion of the files.
- (C) File drawers properly marked with contents.
Proper cabinet is quickly located.
- (D) Guide Cards (Already in File).
Proper space in file is easily found.
- (F) Assorting books (see XI (A), page 29).
Time saved and rehandling eliminated.

(F) Efficiency Records.

Clerks can judge for themselves if their work is satisfactory and at the same time recognize and correct their own weaknesses.

VI. FOLLOW-UP SYSTEM

Instead of keeping papers for future attention in or upon the desk, pigeon-holed, etc., until such time as they require attention, send them to the filing department, and by a follow-up system they can be brought to the attention of the individual specified.

TICKLER SYSTEM (applies to any method of filing)

- (A) Mark the date paper is needed in lower left-hand corner, and send to filing department.
- (B) Here a tickler card should be made out containing the necessary information, i.e.:

Date wanted
Return papers to
File number or folder name
Subject
Remarks.

- (C) File papers in proper place.
- (D) File tickler card in card index tray under date specified.
- (E) First duty each morning should be to remove tickler cards.

VII. CHARGE SYSTEMS

Used when papers are drawn from file, to know who has them, and how long.

For example:

(A) List shows papers drawn, date, and by whom; entry is crossed out when papers are returned (or some other method to close the entry may be used).

(B) Charge sheet shows papers drawn, date, and by whom; it is filed in place of papers and destroyed when papers are returned.

VIII. CROSS REFERENCING

The advantage of maintaining a card index in conjunction with any filing method lies in the possibilities of perfect cross referencing.

By means of cross references any individual paper may be located instantly, no matter whose signature it bears or under what subject it has been filed.

Data involving more than one subject or name are indexed and filed under the most important; but index cards are made out for the other leading names, and under the various synonyms to the accepted subject, each card bearing the number under which paper is filed.

IX. LOST PAPERS

(A) Papers have not reached files:

This fault is outside of the filing department.

Subordinates: Rule should be made that all unfinished business must be kept in a particular tray or folder on the desk, or in a specified drawer of the desk.

Executives: A good rule is to send everything at the end of the day to the filing department, and the papers in "pending tray" can be brought to the attention of executives by a "tickler system." (See b, Follow-Up System.)

(B) Papers removed; no adequate record.

In any organization papers removed should be charged to the individual, or a desk-to-desk canvass may be necessary until papers are found. (See 7. Charge Systems.)

(c) Papers misfiled:

Careless filing:

Use as much care when returning papers and folders to file as in the original filing.

Incorrect and insufficient guiding is often a cause of misfiling. (See 10. Guiding.)

Overcrowding folders:

Can be overcome by using expansion folders where necessary or adding a folder in front of the one already in file.

There is no excuse for misfiling if adequate equipment

is provided and proper rules are made governing the filing department.

- (D) No index card for subject or title as called for. (See 8. Cross Referencing.)

X. GUIDING

Guides with tabs or projections cut to fifths, thirds or halves, are commonly used.

(A) *Alphabetic.*

Guides made up in fifths, tabs in "staggered" positions. Guides not provided for at the time file is installed may be inserted, making a finer division of the alphabetic arrangement, or a name guide inserted in its proper alphabetic sequence may be used.

(B) *Geographic.*

Guides made up in thirds, position of tab and color of guide distinguishing the divisions. There are numerous systems and variations of this scheme carried by the filing equipment dealers that will provide for any kind or size of geographic file.

(C) *Numeric.*

Guides made up in fifths, tabs in assorted or "staggered" positions, and positions repeated to whatever extent necessary.

Guides for cards up to 5 x 8 inches:

Linen card stock, celluloided after printing to protect tabs. Soiled and "dog-eared" tabs are unsightly and illegible, and a common cause of misfiling.

Guides for larger cards and correspondence:

Heavy-weight manila is recommended. In files containing data of a miscellaneous nature—i.e., architectural plates, catalogs, etc.—heavy pressboard, metal-tipped guides may be used advantageously.

Good Guiding. Depends upon the depth (from back to front) of the file drawer, the class of material and thickness of guides.

Card Index. A guide to every 20-40 cards.

Alphabetic File. A guide about every inch.

Numeric File. A guide every 10 or 20 numbers.

XI. DUTIES OF CLERKS ASSIGNED TO FILING

For example:

Responsibilities may be divided according to experience and efficiency as well as by amount of filing and looking up required.

(A) FILE CLERK WORK (may be handled by one clerk)

1. Assort papers for file, rough assorting by State; then alphabetically by Town. Final assorting of each Town alphabetically by Name. Use Assorting Book.

Assorting Book is a book having heavy cardboard leaves, each marked according to the System of Filing.

For example:

In Geographical Filing, there will be one Assorting Book arranged by State—Alabama, Arkansas, Connecticut, etc.

Another Assorting Book indexed with the letters of the Alphabet is used for assorting each State by Town. Then, by clearing the book, the same indexes may be used for assorting by name.

- 2. File papers in proper place.**

For example:

Papers for Mrs. Robert E. Lee,
Richmond,
Virginia.

File in Virginia drawer containing Virginia
back of Richmond,
under Lee,
after Q. Lee,
before S. Lee.

Of course, Robert *D.* would precede Robert *E.*, and Robert *F.* would follow.

3. Verify files—see that proper sequence is maintained.
4. Verify addresses for which no Index Card is found and have Index Card made, or correction attended to.

For example:

Sheet is marked "Plana, Texas." No such town. Sheet is corrected to "Plano, Texas," and filed in proper place.

Index Cards may be made for towns which exist but are not Post Offices.

5. Look up requests for papers.

(B) FILE CLERK WORK (may be handled by another clerk)

1. Look for papers requested by other clerks or departments; attach all papers found and send to person requesting them.
2. Assort, file and verify all papers in one small section (when duties are divided between two clerks).

(C) CASES WHERE RECORDS ARE NOT FOUND WHEN REQUESTED

1. Handling of—

Special Requests.

For example: Special investigation may be required.

Charge Sheet or Record is found (some one has already drawn papers).

For example: Papers may be recalled from person, or special request simply marked to show date papers were drawn or who has them.

2. Records of Percent *not* found are direct reflection on accuracy of filing and of look-up. If papers are properly filed, they should be found when desired.

XII. CONCLUSION

Thought, Concentration and Effort—The Foundations of Success.
For example:

Think of the customer as a friend. His letters, on which you look up the papers, are requests for a favor, or a statement that he is not pleased. Without records your friend will not be properly served; so it is up to *you*.

Get the habit of thinking. Many people are unsuccessful because of failure to think quickly and correctly. You are able to develop yourself; the matter is in your own hands.

Give the work the attention and thought it demands. Cultivate concentration by watching yourself; prevent errors. Your success and advancement are assured if you faithfully strive for results.

D.—OUTLINE FOR MANUAL FOR STENOGRAPHERS, PHONOGRAPH OPERATORS AND TYPISTS

I. FOREWORD—SHOWING IMPORTANCE OF WORK AND QUALITIES ESSENTIAL TO SUCCESS

For example :

MANUAL FOR STENOGRAPHERS, PHONO- GRAPH OPERATORS AND TYPISTS

THE LETTERS SENT BY THIS COMPANY SHOULD BE ABOVE
CRITICISM, BOTH IN COMPOSITION AND MECHANICAL
EXECUTION.

First impressions are formed from the appearance
of a letter, in the same way as from a person's clothes.

To convey the desired effect, the letter must be
neat, carefully arranged and, most important, well
expressed.

The first two lie absolutely with you. Smudged,
misspelled, uneven letters will affect your standing much
more quickly than any other part of your work.

The subject-matter rests with the dictator. But
your common sense and knowledge of English must
be constantly exercised for the proper interpretation
of the dictation.

Thoughtful, careful attention to the work assigned
is essential, as well as judgment and tact in handling
detail.

Following these rules means efficiency. Efficiency
is another word for success.

The object of this manual is to secure uniformity
and to maintain a high standard of quality in the busi-
ness correspondence of this office.

II. GENERAL RULES

(A) Attitude toward work.

1. *Good Health.*

An indispensable prerequisite to good work is *good health*. You cannot do your best when you are suffering from headaches or other ailments. You must therefore cultivate the habit of good health through systematic work, proper diet, rest and recreation. Every morning should find you fresh, well-rested, and in good trim. You cannot hope to do your best if you do not give proper attention to your health.

2. Take an intelligent interest in your work. It is not enough that you do your tasks punctually and well. You should be sufficiently interested in your work to enjoy it and derive pleasure from it. Work is a dignified activity by means of which you secure your livelihood. You should, therefore, look forward to the hours that you spend at work and learn to enjoy them. If you have the proper attitude, you will find your work pleasant and agreeable.

3. *Be Efficient.*

Reduce wastage of time, energy and materials. Do your work promptly, so that you may be ready for the next task when it comes. Learn to do your work systematically, that your energy may be well directed toward the greatest output. Cultivate the habit of doing things right in the first instance. Do not waste material—paper, pencils, pins, rubber bands, carbons—proper conservation of these will show that you have a regard for economy and are safeguarding the interests of your employer.

4. Your progress and pay depend on your attitude toward your duties. In the long run, everyone is paid according to the work he does. Test your attitude toward your work by questions such as these:

“If you applied to yourself for a job, would you get it? Are you as an employe filling your hours with productive, conscientious labor, or are you too busy watching the clock? Are you as an employe filling your hours with productive, asset to your Company? Do you put your heart and soul

into your work? Are you treating your employer as you would have him treat you?"

5. Be familiar with the details of the business in which you are employed; particularly with the subjects usually covered in the correspondence handled. A knowledge of the office routine will enable you to do more intelligent work.

(a) The Commodity sold.

(b) Selling Methods.

Salesmen and Agents.

House Organ.

Catalog.

(c) How orders are received and handled so that customer gets what he wants and is paying for.

(d) Forms, Order Blanks and all printed matter issued or used by the Company.

(e) Inquiries, Adjustments—handling of each.

(f) Every office should have a list of words and terms that are most frequently used in the business. These should be mastered by the stenographers and typists. Such a list can be selected from the correspondence and literature that go out from the office.

A good dictionary should be available in every office and employees should be encouraged to consult it freely.

(B) Care of Machines.

1. Clean and dust the *Typewriter* and the *Phonograph* daily (assign morning or evening). Take particular care not to catch cloth or brush on any of the machine parts, particularly the phonograph.

2. Oil both machines once weekly.

3. Report any repairs required, or any trouble *immediately* to person in charge.

(c) Office and Routine Rules.

1. Unless a Rule Book is issued, give instructions about working hours, luncheon, time off, punctuality, absence, vacations, etc.

2. When a clerk spends his time on different kinds of work, records are sometimes kept of the amount of time

spent on each. Explain in detail how this record or report is made.

(a) A convenient method of keeping a time record may be worked out along the following lines:

RECORD OF WORK

Date	Time		Kind of work						For Mr.	Number of sheets	Number of lines
	Began	Finished	Dictation	Transcription	Copying	Filing	Other work	Not working			
March 10	9:15 A.M.	10:30 A.M.	✓						Rogers		
		11:00 A.M.	✓						Brown		
		12:00 M.		✓					Rogers	8	150
		12:45 P.M.						✓			
		2:00 P.M.		✓					Rogers	10	175

i. Instructions for keeping "record of work"

Write name at top of sheet.

Place date in column headed "Date."

Enter time you arrive at your desk ready for work under heading "Time began."

Each time you change from one kind of work to another, write down the time of finishing, check under class of work, i.e., "Dictation," "Transcription," "Copying," etc., name of dictator and opposite transcription or copying the number of sheets and lines. Measure these lines with scale from the carbon copies at the end of the day.

The time begun need only appear at the beginning of the day, as the time one piece of work is finished is the time another is begun.

III. STATIONERY

Some companies find it valuable to indicate special instructions regarding stationery used for various purposes, by attaching a slip to the papers. This slip lists the usual

letterheads, etc., and enclosures used. Each is numbered. The Correspondent encircles the number opposite instructions to Transcriber, and pins to top of papers. In this list should appear:

- (A) Letterheads and mailing envelopes (varying imprints, sizes).
- (B) Return envelopes (when and how used; kinds).
- (C) Miscellaneous enclosures; order blanks, advertising matter, etc.

IV. INTERPRETATION OF DICTATION—(Stenographic or Phonograph)

Give explanation of the company's rules to Correspondents on dictation.

For example:

- (A) Correspondent dictates punctuation, paragraph, name, dates, figures.
- (B) Confirmation of these facts supplied on a memo, slip accompanying the papers.

V. DICTATION

At the beginning of the office day put the date on the top of the page in your note book for future reference. Cancel your notes on the respective dates on which they were transcribed. Do this in pencil with large figures. This will not interfere with the legibility of your notes in case you have to refer to them at some future time, and they will show you whether a letter was written on the same day it was dictated, which is often an important matter.

VI. IDENTIFYING LETTERS

If papers are handed to you when taking dictation, lay them face down and when you are ready to transcribe your notes, turn them up and you will find them in the order in which you want them.

Another simple method of identifying the letters is to number them as they are dictated. Phonograph Correspondents number the letter and the space on the Phonograph Slip

showing dictation on it. The stenographer should number the letter and her book as she takes down the dictation.

For example:

"The Phonograph Slip which accompanies each cylinder is marked to show where each letter begins. The space is numbered and the corresponding papers bear a similar number."

VII. CARBON COPIES

(A) Number required.

For example:

"Two carbon copies are required when papers are to be filed. The first accompanies the papers to the file; the second is used for subject classifications.

(B) Colored carbons for various purposes.

For example:

Color may show *where* papers are to be filed.

(C) Economy.

"On two-page letters a second manila sheet is not required; invert the manila and write remainder of letter on the reverse side."

VIII. CARBON PAPER

Be sure to use proper size of carbon for stationery. See that it is free from wrinkles, which spoil the copy. Turn frequently so as to use up all parts of the sheet.

TYPING THE LETTER

IX. ORDER OF ANSWERING—LETTERS TO HAVE PREFERENCE

These, of course, differ in each company. In one, it may be those containing a remittance; in another, refund letters; in a third, preference is given according to how long the mail has been in the house.

X. HELPS TO STENOGRAPHERS

(A) Inserting Carbon.

When inserting carbon between sheets of paper, place it half an inch from the top and left side edge of the sheet

of paper so that when the letter has been written you can remove the carbon with the right hand, holding paper with the left.

(B) Erasing.

When erasing over carbon, take a blotter and insert it under the sheet on which you are erasing, but over the carbon sheet. Then erase and the blotter will prevent the carbon from smudging. This also prevents the wearing out of the carbon paper in spots.

Use a pencil eraser first when erasing and then finish with a typewriter eraser. This makes a very clean erasure, for the pencil eraser takes off the first coat very neatly.

(c) Underscoring.

When underscoring two or more characters, always lock your shift key. Then, while striking your underscore, run ribbon along by turning the ribbon spool crank.

XI. DATING

(A) Position.

(B) Numerals or written out.

(c) Change date at given hours.

For example:

"The date must be placed in the upper right-hand side under the heading. The month is written in full, then the day followed by a comma, and the year. Do not write 'st,' or 'th,' etc., after day of month. Do not place a period after the date.

On ordinary business stationery, 8½ by 11 inches, the end of the date line is to come as nearly as possible at 80. To accomplish this, the following scale has been arranged: in the months from September to February begin the date at 64; from March to August at 67.

Letters transcribed up to 4 P.M. are to be given the date of transcription. All letters transcribed after 4 P.M. are to be dated the following day.

Letters returned for correction are to be corrected the same day, if possible."

XII. HEADINGS

Letters to branch offices, factories and employes, and also inter-departmental memoranda, should have headings. These should indicate the subject-matter of the letter. If a letter is in reply to another, place the initials of the writer of the letter under the subject, and one space below that, the date of his letter, as follows:

January 27, 1916.
In re: Ordering of Supplies
A B C
Jan. 26

Since the information is given in the heading it is not necessary to begin the letter with the usual formula:

"Referring to your favor of the 26th instant by Mr. A. B. Connors, regarding ordering of supplies, we have, etc."

On letters to the public, it may not be advisable to put a heading. In such cases, enter the heading on the carbon. This will facilitate indexing and filing of such letters.

If the dictator does not give you the subject or heading of the letter, ask him for it as soon as he finishes dictating the letter.

XIII. RECIPIENT'S NAME AND ADDRESS

- (A) Letters to the Public: Most companies write the name and *address* of the customer on the letter, as it is thus identified immediately at all times.

This address may be placed either at the beginning or the end of the letter, and may include or omit the local address, as preferred.

For example:

Miss Maude Brown
10 Market Street

Dover, Delaware

Messrs. Rogers & Wilcox
Wilmington, Delaware

Do not use the word "City" in place of the name of the city.

- (B) Letters to Branches, Factories and Employes:

Where the outgoing mail to branches, etc., is sent in a

daily envelope, the form of address is usually as follows:

Mr. John Smith,
Philadelphia Office.

(c) Inter-Departmental Memoranda:

These should bear the name of the person addressed and his department or division, thus:

Mr. Adams,
Advertising Department.

XIV. ESTIMATING THE LENGTH OF A LETTER

Special attention must be paid to centering the letter. In every instance the typewritten matter is to be as nearly as possible in the center of the page, that is, the space under the letterhead and the space beneath the letter should be approximately the same.

No positive rule can be given with regard to the point at the top of the page at which the address and salutation are to be placed. It is a matter of careful judgment.

The phonograph slip that accompanies the cylinder is a guide, though the dictation of different Correspondents varies greatly in amount of typewritten matter. Some Correspondents speak quickly and without hesitation, so a relatively small part of the cylinder would be used. Hesitation, corrections, etc., also take up space. A Correspondent's habits of dictation should be carefully considered before beginning to type.

As a general rule, any letter occupying less than five spaces on the slip is a "short letter," and is placed well down on the page. A letter using from six to twelve spaces is a "medium-sized letter" and is placed a little higher on the sheet. Any letter covering thirteen to twenty-five spaces is about a "full-page" letter, and starts well up on the page. Any letter covering more than twenty-five spaces on the Phonograph Slip, in all probability, requires two sheets.

XV. SALUTATION

- (A) Salutation depends upon the relation of writer and recipient. Explanation of kinds of salutation used, and reasons, is necessary.

For example:

Dear Mr. (Mrs., Miss).....:

Dear Sir (Madam).....:

My dear Mr. (Mrs., Miss).....:

My dear Sir (Madam).....:

Gentlemen :

(B) Attention of Individual.

If the letter is addressed to a firm and intended for the attention of any individual, write on the same line as the salutation, beginning "Attention" at 40 on the scale, thus:

Gentlemen :

Attention of Mr. Smith

(c) Salutations should be used in letters to the public and branch offices, but should be omitted from inter-departmental memoranda.

(D) Indentation of salutation:

Depends upon width of letterhead. Usually on margin with body of letter.

For example:

"On 8½-inch letterhead, begin at 20."

XVI. PARAGRAPHS AND MARGINS

(A). General instructions on paragraphing:

For example:

“Proper paragraphing is very important in letter writing. Long paragraphs, on the whole, are to be avoided; try to keep the length of the paragraphs about equal.

A passage distinct in topic from what precedes or follows is to be written as a separate paragraph.

In all letters the first line of every paragraph is to be indented. Numbered paragraphs are indented the same way.

No lines except the first are to be indented at all."

(B) Specific instructions on paragraphing:

Example :

“Begin each line at 20. End as nearly as possible at 80. Begin paragraph at 40.”

(c) General instructions for margin:

Example:

"All margins are to be equal; that is, the blank space around the typed matter is to be about the same on all four sides.

The size of the top and bottom margins depends upon the length of the letter, and your judgment is your only guide.

The side margins can be more definitely guided.

(d) Quotations: When a paragraph is quoted in the body of the letter, both right and left margins of the quoted paragraph must be indented at least five spaces further than the regular paragraphs."

Quotations should be single spaced; quotation marks should not be placed *before* each quoted paragraph, but only *after* the last.

When an original letter is quoted in a follow-up letter, do not enclose the quoted letter in quotation marks.

(E) Specific instructions for side margins.

For example:

The *left* margin is controlled by the left marginal guide, which should be set at 20. There is no excuse for an uneven left margin.

The *right* margin depends upon the words ending the line. In attempting to keep this margin even, it is often necessary to divide a word of several syllables, placing the last part on the next line.

To further assist you to keep this margin even, the following facts should be observed:

Under no circumstances let the line extend beyond 83.

Better stop at 76 than at 85.

Better divide a word at 76 (or up to 83, of course) than to extend to 84.

Place the right margin guide at 80; this causes the bell to ring at 75.

If necessary to go beyond 80 (up to 83), press the Right Release Key.

XVII. TWO-PAGE LETTERS

Instructions for the heading of the second page of the letter require illustration. Some firms simply number the page, either at top or bottom. Others write the customer's name at the top, as well as the page number. Some place no marking on second page at all.

Example:

Write the name of the Company or person addressed at the left margin. Allow three spaces and then write the number of page, preceded and followed by a dash. At the end of the line, place the date in figures, using diagonal or hyphen

Mr. A. T. Brown —2— 6/24/15.

There should be three single spaces between the heading and the body of the letter.

XVIII. COMPLIMENTARY CLOSINGS

Each company has its own ideas on complimentary closings and signatures—especially the latter. Some use the firm name, some that of an individual, either of which may or may not be modified by a phrase describing the position of the person or the name of the department from which the letter is sent.

Examples of complimentary closings:

- (a) Yours very truly,
- (b) Cordially yours,
- (c) Respectfully yours.
- (d) Faithfully yours.

Examples of signatures (may be all in capitals):

- (a) The Jones and Brown Company.
- (b) The Jones and Brown Company.
Circulation Dept.—Agency Division.
- (c) The Jones and Brown Company,
District Manager.
- (d) John J. Jones (signed),
Vice-President,

XIX. IDENTIFYING THE DICTATOR AND THE TRANSCRIBER

In all companies where a number of different people dictate letters, it is customary to show the initials of the dictator and transcriber in the lower left-hand corner. When one stenographer handles the work of more than one dictator, she should be supplied with a list showing initials and names.

There is much difference in the way this is done, but one point is always true: the dictator's initials are written first.

The differences lie in the way the initials are separated and the number used.

For example: ABC:JWJ
 ABC JWJ
 ABC/JWJ

Again, only the last initials of both dictator and transcriber may be used, thus: C:J, or the full initials of dictator and last initials of transcriber—ABC/J.

XX. TELEGRAMS

Instructions should be given as to the system followed in the office, e.g.:

“Type the message in code language, wherever possible. In cablegrams, use code address, wherever possible. Spell out all figures.

Make two carbons of each telegram. File one copy with the correspondence, and send the second copy to the auditor.

Translation of code address and other code words is to be attached to the carbon copy.

All telegrams and cablegrams should be confirmed by letter on the day they are written.

XXI. HOW TO PIN AND DELIVER TRANSCRIBED LETTERS

Instructions should be clear as to disposition of original letter, carbon copy, and papers.

Example:

"Place original letter, enclosed in envelope, in 'Mailing Basket.' File (or place in basket for file) papers for Filing Department (or clerk)."

ENVELOPES

In companies where the mail for branch offices is collected and sent under one cover to each branch at the end of the day, no envelope should be typed, except when the subject-matter is personal and is intended for the direct attention of the addressee. In such cases, use a plain envelope, putting on the outside the name of the addressee, and the office where he is located. Do not type the post office address.

XXII. OFFICE DETAIL

In many companies the stenographer handles more or less Office Detail, and instructions relative thereto are necessary.

For example:

(A) Tickler File.

There are various kinds of such files, and the procedure for filing and following up must be carefully explained in each case.

For example:

"The dictator may wish the papers brought to his desk at a later date; he writes the date in the lower left-hand corner.

Index the paper or letter on a catalog card, giving the items indicated on the sample below, and file the papers in their permanent filing place. Place the index card behind the guide corresponding to the date when the matter is to be called up. It is part of your work to consult this call-up file daily, and to place each day before the dictator the papers that require attention on that day.

SAMPLE CALL-UP INDEX CARD

NAME: BROWN PUBLISHING CO. DATE: Feb. 21, '16.		FILE INDEX No.:
SUBJECT: CORPORATION INSURANCE.		
CALL-UP DATES	DISPOSITION	
1. Mch. 10, 1916	Sent Circular A.	
2. Mch. 24, 1916	" " B.	
3. April 7, 1916		

O

Place call-up card behind the guide corresponding to the latest call-up date marked on the card.

(B) Cross References:

Cases where two or more names (or addresses) are concerned in one transaction are handled in different ways. In all cases a record is made under each name, and refers to the other, so that information can be found.

For example:

"It is sometimes advisable to file the correspondence of two persons under one of the names; for instance, the correspondence of John Brown, subscriber, under the name of James Smith, agent."

When this is necessary the dictator requests that a cross reference slip be made out, indicating for which name the slip is required.

The transcriber is to write on a sheet of manila paper the name and address of the person whose correspondence is to be filed under another name together with the follow-

ing notation "Filed under James Smith." The cross reference sheet is filed under the name of John Jones to show that his correspondence may be found with that of James Smith—in the above case the cross reference slip is filed under the name of John Brown and the correspondence under James Smith.

(c) House Notes.

Some companies require inter-departmental mail to be typed in certain ways. Samples of special forms, fill-ins, etc., should be given.

For example:

"House notes and memoranda are to be written on the regular memo. sheets provided.

Extracts of letters are frequently made and sent from one division to another. These extracts should be made on the regular sheets provided."

XXIII. DETAILS FOR PHONOGRAPH OPERATOR

The essential points, common to all phonograph operation, are:

1. The electric circuit must be completed.
2. The cylinder must be placed on the holder.
3. The reproducer must be placed as far to the left as possible, so that complete dictation is heard.
4. The amount listened to at a time must be regulated, so that complete, accurate transcription can be made.

A description of how each of the above is accomplished depends, of course, upon the type of machine used.

For example:

(A) Description of phonograph.

In this description, only enough information is given for a working knowledge of the machine. It is desirable for you to have as much technical knowledge about your machine as you can, and your chief will gladly give you all additional information desired.

The phonograph is driven by electricity. To complete the circuit (so that the reproduction can be made), push the black switch at left side of machine to word "on."

The cylinder is wax with a hollow center, having one opening considerably larger than the other. As the wax yields quickly to the pressure of the fingers, lift the cylinder by inserting the fingers in the smaller end. Never grasp the outer surface of the cylinder with the bare hand. Push the cylinder firmly over the holder. If a cylinder is only partially on, it will revolve out of true, and produce an uneven dictation.

To remove, press down the cylinder ejector with the left hand, and push the cylinder off the holder. Receive the cylinder from the holder by inserting the fingers in the opening as before. If you find it difficult to remove a cylinder, place a piece of thin paper around it and warm it with the hands. It will come off very easily in a few moments.

The reproducer is marked "reproducer." The upright handle is used to raise the reproducer so that the cylinder can be placed in position, or removed, and to place reproducer to point desired.

In order that the transcriber may regulate the quantity listened to and typed, the finger "start" and "stop" buttons are provided, which respectively start and stop the cylinder. The "foot trip" is used for the same purpose, and is preferred, because it does not require removing the hands from the typewriter.

Place the heel on the foot rest, and press down firmly with the ball of the foot, the sound of the voice will then be heard. Write a phrase at a time, raising the foot quickly to stop the machine. If the foot is raised slowly the reproducer will drag on the cylinder, making the words indistinct. When ready to write the next words, press the foot down quickly again.

(B) Phonograph Slip.

Accompanying each cylinder will be a Phonograph Slip showing the number of spaces taken by each letter. The scale on the Phonograph Slip corresponds to the Index Scale on the front rod. Consult the slip before beginning to type. If corrections are marked, listen to them, and when form paragraphs are indicated, ascertain their length.

(c) Handling of finished cylinders.

The disposition of cylinders which have been transcribed should be clearly explained.

1. How *long* cylinders are retained before being shaved.
2. *Where* kept during this period.
3. *Who* collects and shaves them.

For example:

"Keep finished cylinders on rack provided, with phonograph slip *folded* inside. They will be collected twice daily by clerk assigned and placed on cylinder stand. Each morning, all cylinders except those transcribed after 4 P.M. are collected by Cylinder Boy to be shaved."

(d) Unfinished cylinders.

1. Where kept.
2. How indicated (so as not to mix with finished cylinders).

For example:

"Unfinished cylinders should never remain on the phonograph over night.

If a cylinder is incomplete, on the Phonograph Slip, draw a line up to the beginning of the first letter yet to be transcribed, and sign your initials and the date below. Place cylinder in rack with memo slip placed as though entire cylinder were to be written."

XXIV. DETAILS FOR FILL-IN TYPISTS

It has been found expedient to answer many requests by so-called "form letters." These form letters are of two kinds:

- (A) The letter which merely acts as a sample for the typist to copy.
- (B) The multigraphed letter, which requires the name and address to be filled in, so as to give the impression of a personal letter. The filling in of form letters is done in one of two ways:
 1. The fill-in to *contrast* with the color of the form letter.

2. By filling in to *match* the color of the form letter.

Multigraphed letters or forms do not all run the same shade, which makes it possible to select those that match the ribbon in the machine. The changing of ribbons will then be reduced. Adjust the typewriter so that every letter can readily be inserted with the left margin in proper position for the address and salutation.

Then roll back the paper so that the first line touching the left-hand margin is visible above the typewriter scale indicator. Roll back seven spaces, for a three-line fill-in followed by two spaces; the salutation and again two spaces before the body of the letter.

For example:

"Mrs. John Jones
432 Walnut Street
Dover, Delaware

Dear Mrs. Jones:—

We have your letter in which you ask us to send you an order blank, etc."

The date of the letter should be placed according to the instructions already given under 'dating.'

(c) Addressing Envelopes.

"In addressing envelopes for circulars and letters that require no fill-in, take care to select a ribbon which will match the type in the letter to be enclosed."

XXV. GENERAL RULES FOR CAPITALIZATION, SYLLABICATION, AND PUNCTUATION

This manual has been prepared as a reference book. Typists are not held responsible for the material herein contained, but certain common difficulties have been listed for ready reference, and each typist is encouraged to use the manual when in difficulty.

The rules given are not iron-clad, and should always be interpreted according to the meaning which is to be expressed.

(A) Capitalization

The use of capitals is in a great measure a matter of taste and judgment.

As a general rule, capitalize all names, including Christian and Surnames, Religious Sects, Political, Civil and Military Organizations, Political Divisions, Holidays, Historical Events, Streets, Squares, Theatres, Halls, etc.

(B) *Division of Words—Syllabication*

Words should be divided in writing as they are pronounced. The following rules and examples will show the proper way of dividing words in cases where any doubt is likely to exist. However, avoid divisions when possible and never have two divisions come at the end of two succeeding lines.

1. Where a *single* consonant comes between two vowels, usually join the consonant to the first vowel, if short, but to the last, if long, as:

ri-val	con-ve-nient
pro-vis-ion	hol-i-day

2. Where *two* consonants come together between two vowels, divide the consonants, as:

plain-tiff	af-ter
ap-pel-lant	im-por-tant

3. Where *three* consonants come between two vowels, the first of which is short, place all which can be pronounced together with the *last* syllable, as:

chil-dren	chuc-kle
twin-kle	trem-ble

4. In doubtful cases better divide upon the vowel, as:

pre-de-cis-sor	dou-ble
pro-duce	trou-ble
me-moir	

5. As the letter "x" rarely begins a word in English, do not use it to begin a syllable; nor use "j" to end a syllable, as it never ends a word. Also, as "q" never occurs in English without "u" following, never separate it from the "u," as:

ma-jes-ty	anx-i-ety
pre-ju-dice	li-qui-date

6. The terminations *in* and *ing* and *ed* (and the plural *es*, when making an additional syllable), form separate syllables.

The termination *er*, when added to a verb ending with a consonant or a silent *e* to form a noun, also forms a separate syllable; but the termination *or* does not, as:

mak-er	ac-tor
com-man-der	pro-tec-tor
form-er	

(c) *Punctuation*

1. *The Comma* (,).—The proper use of the comma is of the utmost importance, for by it the full meaning of the writer is expressed. While it is often asserted that the use of the comma is entirely a matter of taste, it is really founded on certain definite principles.

Grammarians often differ in their theory of punctuation, but the typist is expected to become familiar with certain rules that will bring out the meaning of the sentence, and thus save time and expense in making corrections.

(a) A simple sentence requires no comma, as:

A single copy of a daily newspaper sells for one cent.

(b) Use commas generally before and after parenthetical clauses, as:

Fashions, as well as recipes compiled by experts, are to be found in leading women's magazines.

(c) Use commas before and after a negative clause when introduced by way of contrast or opposition, as:

The circulation of large publications has not attained its size by chance, but by the systematic work of the management.

(d) If parts of the sentence are inverted, use commas both before and after the clause introduced by the conjunction, as:

Check payments, a method of securing receipts much used in modern business, are handled through the Clearing House.

(e) Where three or more words of the same part of speech

or, similarly, a number of short phrases occur, the last two of which are connected by a conjunction, use a comma before the conjunction, as:

Lincoln, Garfield, and McKinley are three well-known names in American history.

(f) Place a comma after the following and similar words when they introduce a sentence, and refer to the whole idea, or when they introduce contrasted clauses, as,

again	here	now
further	there	why
yes	then	first

Yes, the Department of Agriculture is invaluable to farmers.

Omit the comma when such words are introduced so as not to interfere with the harmony of the sentence, as:

The daily newspapers publish many articles on baseball also.

2. *The Semicolon (;)*—Use the semicolon to separate clauses (independent or dependent) when the meaning is not so closely related to the rest of the sentence as to require a comma or connecting word. This is especially true when one member contains a comma, as:

Magazines are an extensive advertising medium; the demand for space is increasing rapidly.

The common belief that a sentence ending with a preposition is incorrect is much discussed. While such sentences abound in good literature, the emphasis may not always be placed as the writer intended.

3. *The Colon (:)*—

(a) The colon introduces a formal or long, the comma an informal or short, quotation.

(b) Use the colon to mark a wider separation than that marked by the semicolon.

(c) Use the colon to introduce a series of statements or specifications when formally introduced by a general statement, or by **THUS, AS FOLLOWS**, etc.

4. *The Interrogation Point (?)*—Use the interrogation point after every sentence or expression asking a direct question.

5. *The Exclamation Point (!)*—The exclamation point, when properly used, adds force to language. It is most effective when used sparingly.

(a) Use the exclamation point after interjections and all words, phrases, and sentences that express surprise, emotion, or command, and after the word of address when strong emotion is indicated.

(b) Use the exclamation point to express doubt or sarcasm.

6. *The Apostrophe (')*—Use an apostrophe in elisions or contractions in place of the-omitted letter or letters, as:

don't
I'm

isn't
you're

Form the plural of the letters of the alphabet and of other characters by adding 's, as:

Dot your i's and cross your t's.

7. *Quotation Marks (" ")*—Two inverted commas before a quotation and two apostrophes at the close of it are called "Quotation Marks."

(a) Use quotation marks to enclose a *direct* quotation, but *not* to enclose an *indirect* quotation, as:

"To bear and to forbear," said the minister, "is essential to the happiness of every home."

(b) When a quotation mark, as well as an interrogation or exclamation point follows the same word, the interrogation or exclamation point should stand first if it applies to the quotation alone; but the quotation mark should stand first if the other mark applies not to the quotation merely, but to the sentence as a whole, as:

He said, "Will you subscribe?"

Did he say, "I will subscribe next year"?

(c) Quotation marks may sometimes be used to indicate apology for slang or nicknames, as:

We believe in a "square" deal.

We want you to be a "live-wire."

(d) Use single quotation marks to enclose a quotation within a quotation, as:

At a recent meeting of the typists the supervisor said,
 "A girl came to me the other day, saying, 'Do I
 put a period at the end of the date line?' I an-
 swered, 'No.'"

8. *The Dash (—)*—Explain what special preference is given in regard to spacing before and after the dash, and whether it is to be typed once or twice.

The dash should not be used indiscriminately, where commas, periods, or other marks of punctuation belong.

Use the dash:

(a) When a sentence is abruptly broken off before complete, as:

If I do not buy a new suit soon—by the way, where
 did you buy yours?

(b) After a comma, to increase the separation slightly, as:
 In taking subscriptions, only one thing is necessary,—con-
 fidence in your publications.

(c) Use the dash as a substitute for parenthesis marks, as:
 The population of New York—you realize that this is
 the largest American city—is increasing year by
 year.

9. *Parenthesis Marks ()*—Use parenthesis marks when an explanatory clause or phrase is placed in a sentence grammatically complete without it.

When any other punctuation mark is necessary in the sentence at the point where the parenthetical sentence belongs, it is put after the closing parenthesis, as:

I will ask him to renew his subscription (assuming that
 he has already subscribed), and I am positive he
 will do so.

10. *The Hyphen (-)*—

(a) *Compound Words*—A compound word is one made up of two or more words retaining their separate form and significance. Words should not be compounded when separate words will convey the same meaning and many words formerly written with a hyphen are much better as single words.

The use of the hyphen should be established by business houses to apply particularly to conditions in their own correspondence. A definite and careful list of these should be prepared and supplied to each typist. Some of the more general grammatical rules are given below, and should be carefully considered when making the list.

(b) *Prefixes*—When the prefix *pre* or *re* is united with a word beginning with *e*, and prefix *co*, use a hyphen, as:

pre-exist
re-enter

co-respondent
co-operate

(c) *Points of the Compass*—Points of the compass should be one word, as northwest, southeast, southwest; but north-northeast, west-southwest, etc., should have the hyphen used.

(d) *Fractions*—Should be made two words: one half, two thirds, etc. There is no more reason for making one half a compound word than there is for making one man or one horse a compound. But when used as an adjective or when combined with a noun, they should be compounded, as:

one-half interest, one-man power, one-horse sleigh,
half-dollar, half-barrel, half-way.

(e) *Colors*—Expressions like brownish yellow or yellowish white are compounded. But where a noun is used as an adjective expressing color, the word should have a hyphen, as:

lemon-yellow, silver-gray, olive-green, etc., also red-hot.

(f) Compounds of a noun in the possessive case with another noun are not infrequent, as:

bird's-eye, king's-evil, crow's-nest.

(g) *Miscellaneous Rules*—Confusion about the correct usage of certain words because of their similarity of sound or of use in a sentence will be much reduced if the following rules are observed. Like all other rules they have exceptions which will not here be taken into consideration.

1. "Shall" and "Will"—In statements concerning simple futurity, use *shall* in the first person, and *will* in the second and third, as:

I *shall* pay this bill April first.

Remember that you *will* constantly meet subscribers ready to renew.

All subscriptions *will* receive our prompt attention.

When the statement involves a promise or agreement, or when special emphasis is to be expressed, the reverse is correct, as:

Sign and return the attached card and we *will* send you ten copies without charge.

You say you *will* not reach the salary mark, but I say you *shall*.

Bear in mind that sample copies will go as second class matter and consequently *will* not be received for several days.

This reversal of the order also applies to second persons when asking a question, as:

"Shall you go to Palm Beach this winter?"

2. *Affect and Effect*.—While these words are somewhat alike in sound, there should be no confusion concerning them if a simple test is applied when in doubt. Affect and Effect, when used as verbs, cause most confusion, and the meaning must be carefully analyzed to determine which is correct, and it is in this connection that most typists find difficulty.

Affect means to alter, to change or modify, while *effect* means to produce or bring to pass. If in doubt, the test of trying which word was intended by the dictator by substituting one of the above words is simple and conclusive, as:

Your failure to remit promptly has affected your standing in the contest—(has *changed* your standing, not has *produced* your standing).

The removal was effected without difficulty—(accomplished or finished).

3. *Balance and Rest*.—Use the word "balance" with reference to cash accounts only.

Most of our agents receive small samples by mail, the *rest* by express.

4. *Lie and Lay*.—Perhaps no two words in the language

are confused in the minds of more people than the verbs *lie* and *lay* and their principal parts. *Lie* means to recline, *lay* means to place. With these two definitions, it is a simple matter to remember that to express the idea of reclining, the verb *lie* is used as follows:

<i>Present</i>	<i>Past</i>	<i>Present Participle</i>	<i>Past Participle</i>
Lie	Lay	Lying	Lain

For example:

TO LIE—

Do not allow a cylinder to *lie* unprotected on your desk.
 Last night, just after I *lay* (never *laid*) down, a fine plan for soliciting came to me.
 I found a letter from an agent *lying* on my desk.
 On account of rush of business, your letter has *lain* on my desk unanswered.

TO LAY—

<i>Present</i>	<i>Past</i>	<i>Present Participle</i>	<i>Past Participle</i>
Lay	Laid	Laying	Laid

Lay the book in a convenient place, as it is always a pleasure to read.
 The cornerstone of that church was *laid* in 1490.
 After *laying* your book of Rules aside, start with determination to succeed.
 Special rules have been *laid* down in the form of laws.

USE THE DICTIONARY

E.—OUTLINE FOR COMPLAINT MANUAL

INTRODUCTION

Any outline from which a Complaint Manual can be prepared must necessarily be general, so as to cover the various kinds of business problems involved. The following will probably be suggestive, and cover the most important points required in such a manual.

Experience has shown that written instructions often show glaring inconsistencies that oral instructions and actual operations do not necessarily indicate. For this reason alone written instructions have a definite constructive value.

The statement that at least 40% of the complaints are preventable, is only another way of saying (whenever this feature of a business becomes too conspicuous) that an investment in *Complaint Prevention* is as necessary as one in Fire Prevention.

It may seem apropos, then, to devote a few lines to complaint prevention; this is as much in place in a Complaint Manual as instruction in fire prevention is desirable for City Firemen.

A classification of the causes of complaints systematically analyzed will, without fail, indicate those weaknesses in organization, system or operation causing the failure to please customers and resulting in Complaints.

This analysis may be made periodically, or it may be a regular part of the Complaint Adjusting work to tabulate the causes of the Complaint. In the latter case, it must be definitely understood that the Adjuster is sufficiently acquainted with all information that influences such records.

Experiment and comparison will show what is most desirable in each company. Some companies include in their manuals the general "House Rules." If no regular written rules are available, the manual should without question also include the following information:

- Hours of work; starting; closing; luncheon.
- Registering present—Time Clocks, etc.
- Tardiness, record of; Penalty.
- Entrances; Exits; Elevators.
- Holidays; Vacations.
- Suggestions and rewards for same.

Rules of discipline; including relations with other employees and superiors.

Purchases; packages brought into and taken from the Building.

Telephones; Business and Personal Calls.

Welfare features, etc., etc.

The Complaint Adjuster.

Relation to customer and to the company.

I. FOREWORD.—At least a paragraph should be devoted to discussion of the importance of the work. For example:

INSTRUCTIONS FOR COMPLAINT ADJUSTERS

The pages that follow explain in detail exactly how every class of Complaints is adjusted.

To do your work properly, it is necessary that you first understand all this detail.

In adjusting Complaints, you should always bear in mind the policy of the house, which is

To deal fairly—

To please every customer.

Remember that so far as the customer is concerned, YOU are the "COMPANY," and you are to see that the adjustment is made correctly and fairly. If you do not, then the "COMPANY" has not lived up to its Guarantee.

The policy of the "COMPANY" is really to please the customer. If any question arises which is confusing or which you do not understand, go to your Department Head for advice. In everything you do, carry out the "COMPANY" policy.

To deal fairly—to please every customer.

II. *Complaints Classified.*

Practically all complaints received by any company can be grouped under some or all of the following headings:

(A) Non-delivery or Shortage:

The distinction between these depends more upon the records than anything else, as they are practically the same to the customer. Non-shipment is usually caused by incomplete stock, delay, or error in handling, so shipment is not made in time to reach the customer by the date expected, or is incomplete.

Sometimes a shipment may have been made, but the package is lost or delayed in transit; some of the contents may be lost or stolen. While such occurrences are beyond the control of the company, complaints of this kind are received, and must be adjusted.

(B) Unsatisfactory service:

The interpretation of the word "service" depends upon the company. For the sake of convenience, merchandise service is considered under a separate heading. Here it means the complaint caused by the way things are done. *Errors* are the principal cause of this group—errors of omission and of commission, including inaccurate figuring, copying or filling, careless penmanship or interpretation of the customer's instructions, failure to record transcriptions properly so that accounts balance—all cause their quota of Complaints. A trivial error at the beginning may be the cause of continued and repeated mishandling right through the house. Other serious complaints are caused by *delay* in handling orders and mail, and in those places which come in personal contact with the customer, by *lack of interest and courtesy* in attending to the customer's desires.

(C) Unsatisfactory merchandise:

This refers entirely to the commodity sold, whether wearing apparel, dry goods, automobiles, or electric current. When the quality, durability, style, or any of the countless details concerned in salable goods, fails and a complaint results, the merchandise is to blame. This is a "merchandise complaint"—whether the dress faded, or the light would not light. The commodity that does not come up to the expectations developed by the sales talk, spoken or written, is unsatisfactory merchandise. Cases of damaged or soiled goods are also included under this heading.

This classification may be used for subdividing the work of

the Adjusting clerks, and in this event each becomes a specialist in the adjustment of certain cases. It is essential, however, that all adjusters have an understanding of all the conditions, as these conditions frequently interlock, or occur in the same letter. Such cases would necessarily be rehandled or mishandled unless all clerks were properly trained.

III. *Sources of Information.*

The adjuster requires *General Information* about the Company's methods, as well as *specific instructions* covering the particular work he is to do.

(A) *Sources of General Information.*

This covers the way things are done and the records and instructions included in these operations; the sources of this information should be specified.

1. From the manual or other written information supplied by the company.

2. From instructions of superiors and co-workers.

3. Instructions should cover the following points:

(a) Receiving and recording the order or contract; who does this, where, and the principal points involved in the work.

(b) Handling the records of the order:

i. Filling the order—who does this, how, etc
from stock

by substitution

made to order

held orders (more information necessary)

back orders (goods temporarily out)

cancellations (order cannot be filled)

ii. Sales records—who makes them, how?

iii. Bookkeeping or Accounting records.

iv. Policy regarding special conditions:

Returned Goods

Balances

Alterations

Transportation charges and other fees

Damaged or other claims

Doubtful and unjust claims—"Policy Adjustments."

(c) What records are obtainable to show the conditions in the order.

- i. *Price lists, catalogs*, showing the merchandise carried by the company. The particular items involved in a transaction are obtained from the order, contract, or correspondence.
- ii. *Files, books*, or other *records* made in the process of filling the order, as described above. Particular reference is necessary to those used in making adjustments. Regarding files, explanation of the following points is desirable:

Name—"Shipping Records," "Correspondence," etc., showing nature of the records filed in that section.

Kind of File.—Card, sheet, folder, etc.

Filing System.—How these records are filed; alphabetically, geographically, numerically. Explain which is the filing index and why.

Location of the File.—Department (name and number). If file is visited in person, mention location in the department.

Why the File is Kept.—Value of the records; if the same information is in two or more files, explain differences and why both are kept; which file is given preference in consultation, and why.

(B) *Sources of Specific Information About Adjusting.*

This covers the particular detail of actual adjusting, and must be accurate, complete and clear, as opposed to the General Information, which only needs to give the Adjuster an idea of the work described. The sources of this information should be similarly indicated:

1. From the manual or other written information supplied by the Company.
2. From verbal instructions of Superiors and Co-workers.
3. From explanations by Teachers, Superiors or Co-workers. Instruction should cover the following points:

IV. ADJUSTING

The Adjuster who has all this preliminary information is ready to take up the actual detail of making adjustments.

(A) *Supplies.*

1. *List supplies* required. Explain keys, if used.
2. *Obtaining supplies*; use of requisition, if required.
3. *Care of supplies*, cabinets, or other arrangements for keeping supplies in use clean and neat; reserve supplies.
4. *Use of supplies.*

Use of the various forms; if serial numbers are used, explain importance; fill-ins; copying.

Fastenings: Explain any special method of fastening.
Carbons: Number required; use of carbon copies, clearness.

Folding statements, etc., for address in Outlook envelopes.

5. *Economy.*

Not to be used for personal correspondence, cuffs, etc.
Spoiled or mutilated postcards and stamps not to be destroyed; state to whom they should be given for redemption.

(B) *Routing of Work.*

How Complaints are Received:

Letters,
Telegrams,
Telephoned Complaints,
Complaints made in person.

1. Explanation of routing and mail classification scheme used by the Company. If the Adjuster does his own classifying, detailed instructions must be given. The sequence in which the various classes of mail are routed to departments and individuals must also be explained and illustrated. Various schemes are:

- (a) *Marking* the route on the letter.
- (b) *Attaching* a slip on which the routing is indicated; where there is choice, the proper headings are circled.

(c) When the slip is gummed, it is a *Sticker*, but used the same way.

2. Handling of papers before Adjuster receives them. Explanation of symbols and records attached; acknowledgment; recording instructions.
3. Handling of adjustments after completion.
 - (a) What are to be handled by other departments and why.
 - (b) What are to be destroyed.

(c) *Duties.*

1. Records or Files of Information kept by the Adjuster for use in adjusting; nature of this work; how and when done.
2. Adjusting; the detailed instructions regarding the various adjustments are more fully explained later.
3. Order of papers in a finished adjustment; disposing of the finished adjustment; when the order of pinning papers is a matter of routine, the reason for the position of each should be explained.
4. Records of Adjustments.

If permanent records of adjustments are kept, detailed explanations of their form and use should be given. For example:

"Record on the Shipment Sheet (sample attached), a summary of the facts given by the customer. Opposite, under 'Answer,' summarize the facts to be covered by the correspondent, or write the key of the form letter sent, and sign."

5. Records of causes of Adjustments: Noting of errors, and charging same.

The forms used for these purposes must be attached and explained.

6. Daily Report: How filled in; explanation of Efficiency Records, if kept.

(d) *Routine.*

1. Ascertain the facts of the complaint from the letter or the customer himself. It is necessary to know what is wrong before adjustment can be made.

2. Obtain the facts of the case from the Company's records by personal visit:

Explain what to look for, meaning the information on the sheet or card.

State whether the record may be removed or the necessary information copied without removing the record.

How information is obtained other than by personal visit:

In this explanation would be the illustration of the various information forms used, how they are filled in, time allowed for each department to answer, how the information slips are delivered to the departments and returned to the clerk making the requests. In cases where such information is obtained by telephone, include specific instructions regarding calling the department and explaining the information desired without repetition. This should also include the meaning of all code terms used in the house.

Cases where the complaint is caused by error, evidence of the error is usually sufficient for immediate adjustment. Such cases as badly written, indistinct or omitted entries; errors and omissions in copying and in filling orders, errors in figuring, causing wrong amounts to be given in change, refunded or credited.

3. Using the information:

How to decide the course to pursue. How the records affect the adjustment. Recognizing the exceptional case.

V. FORMS OF ADJUSTMENT

(A) *Explanation:*

Explanation when used without money or merchandise being involved, should close the transaction except in unusual cases or where the circumstances are beyond the control of the Company.

1. *Verbal* explanations are the simplest. A clear, courteous

statement of the conditions showing the customer that the Company's policy is to be helpful, should dispose of these where no money or merchandise adjustment is necessary.

2. *Written* explanations may be either form or dictated letter or postcard, and should cover three points:

Regret for the cause of the complaint; statement of the facts as in verbal explanations, and a promise to prevent repetition of the unsatisfactory occurrence, appreciation of patronage, etc.

3. Whether or not *records* of these Adjustments are kept is a matter of policy for the Company to decide, but definite detail of how these are handled is essential; for example:

Records show shipment.

Delivery chart compared with date of complaint indicates:

- (a) Complaint was written *before* delivery could be made; address S/M (Shipment Made) Postcard, filling in date of shipment.
- (b) Complaint was written *after* delivery should have been made; address TR (Tracer) Postcard, filling in date of shipment.

The above are form adjustments explaining when shipment was made.

(B) *Adjustments.*

Hereafter, the term "Adjustments" will be used to refer to cases where the customer receives merchandise or money.

In these cases the Company gives the customer something more tangible than explanations to insure proper satisfaction. In deciding which is the correct disposition, the specific instructions on the preceding pages must be explicit.

(c) *Repairs or Alterations.*

This covers most cases of merchandise which has given unsatisfactory service. In some cases the merchandise is returned to the Company, or an employe must visit the home of the customer to make the required changes. In either case, definite memorandum of the following points should be attached:

1. Instructions to clerk making repairs or alterations. If different forms are used for different departments or classes of goods, explain use of each; samples properly filled in should be attached.
2. Authorization for shipment of such adjustment made in the House; forms used; differences from regular order. If charges are necessary, detail for entering and recording should be given.
3. Specific Routing instructions for finished adjustment.
4. Accounting and Adjusting Records.
5. Nature of reply, if required.

(D) *Exchanges.*

This is the term used when the customer returns goods for which new merchandise is given. The operation is the same, whether returned by mail, by "call" of the Company's representative, or in person.

A record of the merchandise returned is made, for accounting as well as for adjusting purposes. This record is the evidence of credit against which the value of the new purchase is drawn.

Where the return is made in person, the customer may be given his selection at once—a credit slip or voucher for the amount; most places use a slip, giving the customer the privilege of using it as cash, when purchasing, or of obtaining money for it from the Cashier; other concerns credit the account as though a payment were made, entering the new selection as a new sale.

The following points should be covered:

1. Receiving the return, records of same and use of each.
2. Evidence or O K's required by Adjuster.
3. Transportation charges: when allowed; amount; account.
4. Instructions for authorizing new shipment.
5. Specific routing instructions for finished adjustments.
6. Accounting and Adjusting Records.
7. Nature of reply, if any.

(E) *Duplicates.*

Merchandise allowed the customer in place of that newly delivered.

When for some reason or other the merchandise is not delivered at all and a reasonable time for delivery has been allowed, it is necessary to duplicate an order sent by the customer. Sometimes such duplications are exactly the same as the original order; or in the meantime a new selection may be desired instead of the first. In such cases when the shipment is by Express, Freight, or Insured Parcel Post, the Company can recover by filing claim.

The following points should be included:

1. Evidence or O K's required by Adjuster.
2. Instructions for authorizing new shipment.
3. Specific routing instructions for finished adjustments.
4. Accounting and Adjusting Records.
5. Nature of reply, if any.

(F) *Credits.*

Amounts *allowed* customers for various reasons. The method of handling these cases depends upon the Company. When the customer has a "charge account" the entire transaction is simply a matter of bookkeeping.

Cash transactions usually involve a credit slip or voucher of some kind as evidence that the customer is entitled to the amount.

When returned to the issuing company such credit vouchers act as cash. In certain cases, such as allowances, etc., the credited amount may be used as cash in the purchase of merchandise, but not for refund.

Explanation of the following points is necessary:

1. Evidence or O K's on which allowance is based.
2. Instructions for authorizing credit.
3. Making the credit voucher for customer.
4. Specific routing instructions for finished adjustments.
5. Accounting and adjusting records.
6. Nature of reply, if required.

(G) *Refunds.*

These are amounts *returned* to customers for various reasons when the customer asks that his money be returned. Whether

or not the amount is given immediately depends upon the circumstances. When there is evidence that the merchandise has been returned or never delivered, the customer's request should be immediately complied with.

If the investigation shows that either the customer or the Company has not received the merchandise or that the request is unjustifiable, the refusal must be very carefully explained in order to prevent still further dissatisfaction. At the same time, it is good business to try to fill such orders whenever possible, and save the refund.

Cover the following details:

1. Form of refund: check—cash—money order.
2. Evidence or O K's on which refund is made.
3. Instructions for authorizing refund.
4. Making the refund—receipt for same.
5. Specific routing instructions for finished adjustments.
6. Accounting and Adjusting Records.
7. Nature of reply, if required.
8. Getting the refund back, and keeping the customer's friendship.

(H) *Policy Adjustments.*

Allowances are a form of adjustment which definitely comes under the class of "Policy Adjustments," and are for the sake of retaining the customer's good-will, even when an element of unreasonableness is present. Such are made where the customer has been put to unusual expense because of some failure in the service of the merchandise. The amount is credited or refunded according to the policy of the House and the customer's request.

Also cases may occur where an essential record is missing, but for the sake of the customer's convenience, adjustment is made. Usually such "No Record" Adjustments are followed up. One company uses an "Investigation Card."

Explanations should be along the same lines as outlined above.

F.—OUTLINE FOR MANUAL FOR OFFICE BOYS AND MESSENGERS

GENERAL

Boys shall keep themselves fully informed of the instructions contained in this manual. Ignorance of a rule will not be considered an excuse for failure to follow the instructions.

ORGANIZATION

Boys shall report to and receive instructions from the Mail Clerk, or, in his absence, the File Clerk.

COURTESY

Boys shall be courteous and shall conduct themselves at all times in a quiet and orderly manner. Words are one means of expression, but the manner in which they are expressed is just as important. Courtesy makes friends for yourself and the Company; it reduces the friction of your work and raises your standing with your employer. Remember that the "Voice with the Smile Wins."

GENERAL CONDUCT

Smoking, chewing gum, eating lunch, reading personal letters, books, papers, etc., will not be permitted during office hours.

Loitering and loud talking in the elevators or corridors of the Company's building are prohibited.

Clothing not in use shall be kept in the place provided for the purpose.

PERSONAL APPEARANCE

Be careful of your personal appearance. It is noticed by every one with whom you come in contact. Neatness, cleanliness, carriage and address are marks of self-respect, and it is self-respect which adds to the efficiency of a boy in the estimation of every one.

PUNCTUALITY

Punctuality creates confidence and makes the person to whom you report feel that you are conscientious and serious in your work. Make it a point to report ten minutes earlier than the regular time. "Better Late than Never" is not nearly as good a maxim as "Better Never Late."

ACCURACY

Avoid slipshod, careless and indifferent habits. When enclosing correspondence in envelopes, see that the papers are neatly folded and that the name on the envelope corresponds to that which is on the letter. If you have occasion to dust a desk, see that everything is placed in the same position in which you found it.

ECONOMY

Economy means to make the greatest use of everything which is in your possession. This applies to lead pencils and stationery as well as to money and time. You would not think of using half a dollar out of every dollar that you own and throwing away the other half. Therefore, do not use half a lead pencil or half a sheet of paper and throw away the remaining half. Practice economy and it will grow to be one of the best habits you can acquire. Don't take ten minutes to do a thing that can be done in five minutes.

CO-OPERATION AND TEAM WORK

Help your fellow worker. If you are not busy, try to help some one who is busy. Try to overlook the faults of those with whom you come in contact. Study your own faults and try to remedy them.

OBSERVATION

To cultivate the habit of observation is one of the great aids to self-education. When you are passing through the corridors of the Company's buildings, study the names of the departments and inquire as to the business. Keep your eyes open and think. Learn to anticipate the next thing to be done and do it.

ATTENTION

It is a simple matter to pay attention to that which interests you, but to pay attention to that which does not interest you is difficult. Make it a rule to pay attention to everything that seems uninteresting and you will find yourself developing a quality which will be of great value.

CONCENTRATION

Concentration is the power to think about one subject at a time. This may seem an easy thing to do, but you will find it difficult to hold your mind on one subject longer than five minutes. In all cases you must listen attentively to anything which is said to you and any instructions which may be given. If, however, you find your mind wandering while you are listening to instructions, you must bring your mind back to the subject again and again. Do not attempt to answer before you have heard all instructions.

ANSWERING THE ANNUNCIATOR

The annunciator shall be answered promptly, and messages delivered quickly and accurately. Listen carefully to what is being said and let the person who is giving you the instructions know that you have understood him. It is better to ask to have a message repeated than to deliver it incorrectly.

ANSWERING THE TELEPHONE

The telephone shall be answered promptly, in the following manner:

1st. Remove the receiver and say, "Mr. A's telephone." If there is no answer, repeat the statement. Speak clearly and distinctly, but not *too loudly*, directly into the mouthpiece.

2nd. If Mr. A—— has stepped out of the office, you will say, "Mr. A—— has stepped out of the office. Do you wish to leave any message?"

3rd. If the person wishes to leave a message, take it, together with his name and telephone number.

VISITORS

Treat all visitors with courtesy and give them all of your attention. Whenever possible, obtain a card of such information as will enable you to make an intelligent report to the person who is being called on. Should it be necessary to request the caller to wait, you will be careful to find out when the person called on is disengaged and remind him that the caller is waiting. Do not inform the caller that the person he wishes to see is in or out until you are certain that you are correct.

DON'TS FOR OFFICE BOYS AND MESSENGERS

1. Don't try to do things without understanding the instructions or directions given you.

2. Don't take a chance on getting things straight. Unless you understand fully what is wanted, ask for further instructions. Even if persons are impatient in giving fuller information, don't hesitate to ask for it. The request will be excused, but anything stupidly done because you do not understand what is wanted will never be excused.

3. Don't receive instructions and then do nothing. If you don't know what to do, ask.

4. Don't try to cover up mistakes. You will not succeed. Go to the person concerned and report the mistake.

5. Don't talk loudly or act disorderly in the office or hallways.

6. Don't loaf, kill time or neglect your duties, but move about quickly and quietly.

7. Don't interrupt a busy man merely to hand him a paper. Wait until you are spoken to.

8. Don't guess when asked for information. Unless you know, find out from some one who does before you answer.

9. Don't be careless in the handling of papers. Every paper is valuable and its loss may cause a great deal of trouble.

10. Don't be late and don't be afraid to stay a few minutes overtime at night if your services are required. The boy who watches the clock and bolts the office at exactly five o'clock will always advance slowly.

G.—BIBLIOGRAPHY

- | <i>Subject.</i> | <i>Author.</i> |
|--|------------------|
| PACE STANDARDIZED COURSE IN ENGLISH..... | HORATIO N. DRURY |
| Thirty-four complete, practicable, interesting, up-to-date lessons covering Grammar, Punctuation, Pronunciation, Word Usage and Letter Writing. Adaptable to teaching or for self-study. Based on modern teaching principles and business methods. | |
| BUSINESS ENGLISH..... | CARL C. MARSHALL |
| Partial Contents: | |
| Business Letters. Classes of Business Letters. Suggestions Regarding Dictation. Filing. Hints for Stenographers. Letter Soliciting Trade. Needless Words. Remittances. Typewriting. | |
| PUNCTUATION..... | F. HORACE TEALL |
| Principles and rules, also chapters on Spelling. | |
| THE ART OF WRITING AND SPEAKING THE ENGLISH LANGUAGE | SHERWIN CODY |
| Model Letters of all kinds. Rules of Grammar and Punctuation. Customs and Regulations of Post Office. | |
| ENGLISH FOR BUSINESS USES AND CORRESPONDENCE..... | SHERWIN CODY |
| Entire subject of English in its application to business forms, customs and usages. | |
| PROOF-READING AND PUNCTUATION..... | ADELE M. SMITH |
| Partial Contents: | |
| Proof-Reading. Proof Marks. Preparing Copy. Punctuation. | |
| MAKING THE LETTER PAY..... | A. PETER STOWE |
| Partial Contents: | |
| The Business Letter. The Building of a Letter. How to Write a Business Letter. The Form Letter. Distributing and Mailing. The Correspondence File. Numerical Classification of Correspondence. The File Guard. The Follow-up Filing Documents. Catalog Filing. | |
| LETTERS THAT LAND ORDERS..... | JOHN H. LYTLE |
| Showing how real sales value can be put in a letter. | |
| BUSINESS CORRESPONDENCE AND FORMS..... | THOS. H. RUSSELL |
| Showing how business houses are dependent on their correspondence. | |
| THE BUSINESS LETTER..... | ION E. DWYER |
| Taking the student beyond the mechanical arrangement of the letter. | |

<i>Subject.</i>	<i>Author.</i>
ONE HUNDRED LESSONS IN SPELLING.....	R. G. WALTERS
Classified words relating to different trades, callings, professions, commodities, sciences, arts, etc.	
COST ACCOUNTING.....	JOHN R. WILDMAN
Factory Office.	
COST ACCOUNTING PATHFINDER.....	FRANK E. GOODWIN
Partial Contents:	
Cost Accounting Essential to Success. Practical Educa- tion Needed. Annual Inventory and Stock Taking. Economy in Modern Bookkeeping. Method of Bookkeeping Without Books.	
SCIENTIFIC AUDITING.....	R. H. SPEAR
Partial Contents:	
Auditing. Cost Accountant. Different Kinds of Audits. General Information. Practical Auditing. Systematizer. Trial Balance. Value of Audit.	
PRACTICAL AUDITING.....	GEORGE B. RENN
Partial Contents:	
Analysis of Accounts. Auditor's Working Sheet. Prac- tical Auditing.	
FILING SYSTEMS.....	EDWARD A. COPE
Containing information as to chief characteristics of modern methods and their application.	
INDEXING AND FILING.....	E. R. HUDDERS
A Manual of Standard Practice.	
SYSTEMATIC FILING.....	J. KAISER
Classification, Systematic Indexing, Card Index, Book Index.	
THE CARD INDEX SYSTEM.....	R. B. BYLES
Its Principles, Uses, Operation, and Component Parts.	
THE CARD SYSTEM AT THE OFFICE.....	J. KAISER
Showing the accessible arrangement of information by systematic indexing.	
PRIMER OF SCIENTIFIC MANAGEMENT.....	FRANK B. GILBRETH
Dealing with the problem of maximum prosperity for the employer coupled with maximum prosperity for each employee.	
OFFICE ORGANIZATION AND MANAGEMENT.....	LAWRENCE R. DICKSEE AND H. E. BLAIN
A description of office organization and management under English methods.	

COLLATERAL READING FOR OFFICE PRACTICE (PUPILS)

- | <i>Subject.</i> | <i>Author.</i> |
|--|--------------------------------------|
| CORRECT ENGLISH—HOW TO USE IT..... | JOSEPHINE T. BAKER |
| The purpose is to secure better results in English in all classes of Schools; containing shorter exercises than usually given in text-books. | |
| THE CORRECT WORD—HOW TO USE IT..... | JOSEPHINE T. BAKER |
| Comprehensive work of quick reference for the home, the office, and the school. | |
| STYLE BOOK OF BUSINESS ENGLISH..... | H. W. HAMMOND
AND MAX J. HERZBERG |
| A manual of business English for use in the commercial courses of high schools, business colleges, and universities. Contains also a chapter on filing. | |
| HOW I CAN INCREASE MY VOCABULARY..... | JOSEPHINE T. BAKER |
| This book is liberally sprinkled with quotations from the best authors and shows their application and relation to the subject-matter; adaptable for self-study. | |
| BUSINESS CORRESPONDENCE..... | FOREST CRISSEY |
| Intended to assist the commercial student who has just entered the business world. Useful also as a reference book. | |
| BUSINESS CORRESPONDENCE AND MANUAL OF DICTATION, | WILLIAM H. BROWN |
| Containing copies of actual business correspondence, collected from representative houses. | |
| IN THE FRONT OFFICE..... | "ROUGH NOTES Co." |
| Concerning things that affect the bank balance; containing schemes for making the office more productive at less cost. | |
| HOW TO BE A PRIVATE SECRETARY..... | SHERWIN CODY |
| Valuable to Stenographers, Bookkeepers, Correspondents, Filing Clerks, Office Boys, etc. | |
| THE EFFICIENT SECRETARY..... | ELLEN LANE SPENCER |
| Practical Suggestions, Information, Helps to Stenographers and others wishing to become secretaries. Ideas, Economy, Loyalty, Typing, Filing, Listing, Writing a Business Letter, Getting a Position, etc., etc. | |
| PARCEL POST..... | EDITH M. PHELPS |
| Contains various arguments for and against the Parcel Post; also information regarding the present status of the Parcel Post in this and other countries. | |

- | <i>Subject.</i> | <i>Author.</i> |
|--|---------------------|
| BUSINESS ADMINISTRATION..... | EDWARD D. JONES |
| Modern administration of manufacturing and operating companies, treated as a profession which follows scientific principles. | |
| HOW TO SYSTEMATIZE A DAY'S WORK..... | A. W. SHAW COMPANY |
| Presentation of practical methods. | |
| MENTAL EFFICIENCY..... | ARNOLD BENNETT |
| Treating efficiency as a product of concentration which in turn is the product of will power. | |
| PRACTICAL SYNONYMS..... | JOHN H. BECHTEL |
| Designed to give skill in the choice and right use of words and to afford variety and facility of expression. | |
| THE EFFICIENT MAN..... | THOS. D. WEST |
| This work shows where the present inefficiency of Man is carrying the masses to extreme cost in production, in building and in living. | |
| HOW TO GET YOUR PAY RAISED..... | NATHANIEL C. FOWLER |
| In which sixty-eight men who have made good, who have risen from the ranks to high positions and competence, tell how they have won success. | |
| THE YOUNG MAN IN BUSINESS..... | EDWARD BOK |
| Covering the subjects of development, advancement, luck, salary, etc. A Book which has influenced a wide audience of young men for good. | |
| HYGIENE FOR THE WORKER..... | TOLMAN AND GUTHRIE |
| A practical, readable little book well adapted to employes in offices, shops and factories. | |
| THE ART OF HANDLING MEN..... | JAS. H. COLLINS |
| Various phases of management and its principles analyzed. Every-day human light on salesmanship. | |

COLLATERAL READING FOR TEACHERS OF OFFICE PRACTICE

- | | |
|--|--------------------|
| YOUR EVERY-DAY VOCABULARY..... | JOSEPHINE T. BAKER |
| This book takes up difficult and important words, describes them, gives the correct pronunciation and uses them in quotations from standard authors. | |
| LETTERS THAT MAKE GOOD..... | POOL AND BUZZELL |
| Consisting of two parts; the first, containing a discussion of business letter-writing, the second, presenting a large number of illustrative letters. | |

<i>Subject.</i>	<i>Author.</i>
SCIENTIFIC BUSINESS LETTER-WRITING.....	L. E. LUDWIG
Precepts are the result of practical experience. Prepared by a Correspondent with ten years' experience in building up business by mail.	
THE AMERICAN OFFICE.....	J. WM. SCHULZE
The whole subject of office organization and management is treated from the practical business man's point of view.	
OFFICE MANAGEMENT.....	A. W. SHAW COMPANY
Presenting the problems of organization, hiring, handling and paying office help, desk methods, etc.	
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Laying out an accounting system and containing methods of handling correspondence and office work.	
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THE CHAIRMAN: I think there must be a number of you people who are ready to say something concerning the work done by the Committee, and to start the discussion, I will call on Mr. Adlerblum of the Metropolitan Life Insurance Company.

MR. I. S. ADLERBLUM: I think that the Office Work Schools Committee has placed in our hands a commendable report. It embodies concrete and helpful suggestions. Here we have outlines of six manuals that can be used to good advantage in any office, and there is not the slightest doubt that the manuals are much needed. We still take our clerks untrained. They come in fresh from the schools, and have no adequate conception of what an office is, and of the relation of the work they are called upon to do, to the industry and the public at large. They must be shown how it dovetails and interlinks, and in this report of the Committee on Office Work Schools we have a definite attempt in this direction.

I think that you will all favor the suggestion in Manual A, that the Office Work Schools should have a permanent teacher in charge. As the chairman has pointed out, the method of leaving the matter of introducing new clerks to their work in the hands of another clerk, is really wasteful and inefficient. In the first place, the other clerk has his own definite work to do and cannot give the new employee sufficient time; in the second place, he is not a teacher by training. It is therefore, essential that there should be in each organization, a definite educational director, who should teach the routine regulations and other items in a definite and pedagogical way.

The part of the report which refers to the correspondence manual hardly needs elaboration. It fits in with what was pointed out here yesterday in the discussions on salesmanship, and embodies many of the suggestions that were made in that connection. Perhaps the most distinguishing feature of it is that it warns the correspondent against falling into a rut, and urges him to be constantly fresh and alert. It teaches him to change his mode in the composition of letters, much in the same manner as he would change his mode of conversation in oral salesmanship.

The third part of the report, the manual on Filing, is one which we can all take home and study to good advantage. This is just an outline of various methods. There is probably no

outline here in this report that will fit exactly into the offices of the companies with which you and I are connected, but the manual can be used in conjunction with existing systems, as it contains approved methods, and, of course, your office will adopt the one that is best suited for its needs and which departs least from existing practice. What we have here is a definite way of instructing the filing clerk how to do his work.

Coming to Section D on page 31, you will find that this is an elaboration of last year's report. I want to call your attention to page 32, where the Committee had in mind an outline of what Dr. Metcalf has called the organic relation of the individual and industry, and has laid down some important points under the heading of "General Rules." If you will permit me, I should like to digress here for a moment and pay my respects to Dr. Metcalf for his excellent report on Vocational Guidance. As I read the various reports, I felt the need of a manual that should tell us what are the ideal conditions of employment, what is the ideal office and what is the ideal shop. This has been answered in a large measure by Dr. Metcalf's report on Vocational Guidance. This may be used as a starting point. It tells us what is necessary. The other reports, including the report of the committee on office work schools, will help realize the ideals that Dr. Metcalf has set before us.

Returning now to the subject before us, there is, on page 32, a plea for good health. Of course, the Committee gave only a paragraph to it, but I believe that when you take up this subject in your schools, you will give a good deal more time to it. In places where, as in the company with which I have the honor to be connected, a complete system of medical examination and medical inspection of employees is in operation even to the extent of a dental clinic,—you will, of course, emphasize the point all the more, that the employees should avail themselves fully of the facilities.

In the next paragraph the employees are urged to take an intelligent interest in their work. This is again in line with the organic conception. The idea is that every one should live a twenty-four hour day, and the seven or eight hours spent in the office should be just as much a pleasant part of one's life, as are the private hours of recreation and rest. Here again it is up to the teachers to elaborate this by example and by facts. We make

sonal work with our correspondents which some of the teachers did last summer when the other school activities were not in operation.

Of course, there are many form letters to be sent out from every house, and these need to be revised from time to time. Our particular concern, however, was with the dictated letters. It is somewhat difficult to reach the dictator, but we can readily reach the stenographer; so, for the purpose of experimentation we had our stenographers come to the schoolroom, one at a time, for a daily, private session and for as many weeks as seemed necessary. Each stenographer brought copies of her letters of the day preceding and these furnished the material for the lesson.

We found that the girls who had had preliminary high school training received in a most satisfactory way the ideas which we gave them relative to correspondence. Girls with less preliminary training did the best they could, and they also tried to get a veneer of information to aid them in their work. This latter plan is the thing of which I spoke yesterday, the cases where an attempt is made to add improvement on the outside of the individual rather than to have the improvement work itself out by means of a longer and more thorough training.

When we have a girl with greater preliminary training, we can give her ideas which she is able to assimilate and thus become an excellent letter-writer. As far as the mechanics of the matter are concerned, by means of a manual you can get any one to write letters correct in form, but in regard to the actual wording of the letters, which must express both the spirit and the standing of the house, the girl with the more complete preliminary training is required. Those who had not received the necessary preliminary training were not so apt in grasping the ideas. It is our intention to continue that work this summer.

We have in course of preparation a manual, and I think it is due to last year's committee on office work schools and also to the committee this year, for us to say that we find the reports on Office Work Schools quite a valuable aid.

It is difficult to get a text-book which is satisfactory all the way through---there is so much bad in the best of them, and so much good in the worst of them, that they are not wholly suitable in any case. I believe every house needs to make its own manual.

Just a few days ago the chief in one of our correspondence departments said he thought every correspondent in the building should take our full two-year English course. As I said yesterday, an English course is the most elastic kind of course. It gives an opportunity to eliminate very quickly many of the most glaring grammatical errors. We spend a little time on English Grammar, as much as we think we need, but not a great deal, and we pay particular attention to both oral and written expression. Every student brings to the classroom every week a written exercise. It may be a letter on an assigned subject, or it may be an article on some topic which sends the student to the library to search for certain information, or it may be that we ask the class to write about something they should have observed in the store. We combine with that a period for recitations, for which the students are expected to be in readiness. All of this gives us a chance to give the students ideas on general subjects and to give them some of the inspirational work we want to communicate to them. Our Students' Debating Society is another feature of the school and perhaps the best aid toward oral expression.

I thoroughly believe in a broad English course for everyone, for those who speak and for those who write; and for us, in our Department Store School, I believe English to be the most important single branch of study.

MR. E. B. SAUNDERS (Simonds Manufacturing Company): Our experience has been somewhat different, but it may be of interest. Imagine a manufacturing establishment with an office force of about one hundred, with no thoroughly outlined school such as you have represented here, because our office help is pretty well educated when it comes to us. Our stenographers and clerks come from the commercial courses of the high schools and from the co-operative courses of business colleges, and they are pretty well grounded in the fundamentals when they come to us.

Sometime ago I took hold of copies of the letters which were going out and read them over just as an examination and discovered they were not altogether creditable to an establishment that wants to be high grade, and so we set aside a half hour each week, on Friday morning, when the office force is not as busy as on other days, from eleven-thirty to twelve

o'clock, and gathered together all of the stenographers and the dictators. Previous to their assembling I had read over carefully copies of the letters and made a little comment on them here and there. We had a regular demonstration meeting in that half hour. It was not altogether pleasant to the dictators, or the stenographers, either. None of them dared to stay away, because they were afraid they might be criticised, and they came, some with fear and trembling, and others with curiosity.

Of course, no names were mentioned, though at times they were able to guess who was being criticised. We took the letters at their face value and went over the copies and noted, not only stenographic errors, but errors in composition. I was able to take one letter that had one hundred and twenty-nine words in it and chop it down, with few radical changes, to something like ninety words, just by a process of elimination.

By a demonstration of that kind we were able to improve our letters very greatly in economy of time and space. I do not think it is bad practice to do that, not only for the improvement in composition, but also as a lesson in humility.

This report does not cover the relation of the clerical force to the production end of the business. There is apt to be a gulf between the shop and the office. On the part of the shop, there is a certain feeling that the office is the unproductive end of the business, a sort of necessary evil, like a machine shop in the manufacturing end, and those who are producing the goods think they are carrying the office on their backs. That must be overcome by making the office productive, by showing those in the shop the necessity of facilitating the activities, as our chairman has characterized them, the necessity of having records, of knowing what the costs are, and the proper prices at which to bill goods, etc. That can be demonstrated in talking with the men in the shop, but it is even a harder problem to give the office force a lesson in humility. There is a certain arrogance on the part of those who wear good clothes, sit before a set of books, and have a telephone on the desk, a feeling that they are superior to those doing other forms of work. It does seem as though one of the necessary things for us to do in our educative work is to make the office man feel he is not better than any other worker in the establishment, and more than that, if he is going to confine himself to office work alone, he is apt to become

one of the men in the establishment who can be most easily dispensed with, because clerks are as common as fleas. There are more young fellows and girls who want to enter offices where they can shine than those who want to begin at the shop end where they must soil their hands and appear in overalls or jumpers or in some other costume for working purposes.

The office man needs to know the shop end of the business even more than the shop man needs to know the office end of the business. I cannot conceive in a manufacturing establishment how a man can be efficient as an executive or competent office worker who does not know something about the technical elements of the business, who does not know something about the steps in manufacture, and, indeed, have a general idea of the business as a whole, especially on its productive end. I think that feature is probably omitted from the report. It does not, perhaps, properly belong there, but I do feel that a paragraph at least might be well introduced telling the office man that he must not feel his superiority to any man who is doing humble work in connection with the business, but rather he ought to seek to learn as much as he can from the practical men about the producing end of the business, because, if he hopes to be fitted to arrive at a managership, he must certainly know what are the steps of production, what are the essential qualities that need to go into the goods. The things that he talks about in his letters he ought to know about from observation of the processes.

Once it was not permitted office men to go into the shop, but I think that notion is disappearing from our up-to-date establishments. I think it is important that the office man who desires to learn about the product, who desires to get in some way a knowledge of the factory, should be put in a position to learn it from the men who are bearing the brunt of the work, and certainly if we can in our office work make the men, and the girls as well, feel that they are concerned in the whole business rather than in juggling figures or putting together words, we shall have accomplished a great deal.

MR. L. B. ATIERTON (Swift & Company): Just to add another word to what Mr. Saunders has said. We discovered about a year ago—perhaps as a little inspiration from the meeting at Worcester—that some of our letters going out were not

particularly creditable. I received authority from the office manager to collect carbon copies of all letters written in the stenographic department for two days. The number of those letters ran up into something like 7500 or 8000 letters. I took those letters and went over them carefully and tried to establish a vocabulary for Swift & Company and the packing business. That vocabulary covers something like 2300 words. I believe that if any stenographer in our office would familiarize himself or herself with these 2300 words in all their meanings, that they would be sufficient to carry on the dictation or the transcription of any ordinary letter.

Of course, that will not cover a technical letter, such as might be written by our medical department, or our curing department, or our hide department, but so few letters go out of those departments, compared with the great bulk of our correspondence, it is not necessary to take them up separately.

What I did was this: Six months ago we started a voluntary class of our stenographers, consisting of fifteen women, of all stages of experience with Swift & Company, from a week to fifteen years. These women have met once a week from five to six o'clock on Tuesdays since then. I have taken this vocabulary, if you please to call it such, that we have gotten up, and am developing a series of English lessons. I have had an informal report from four or five of the women, and every one of them has said that the hour spent at that work has been decidedly worth while. I think we are getting somewhere with it. We have not developed a text-book—God forbid that we should develop a text-book—we are text-booked to death now. That is one thing which is the matter with the schools, among others. The loose-leaf manual system seems to me far superior, because it does not tie up the amount of money that a text-book or bound manual does, a loose-leaf manual does not tie up much cash, and can be changed as experience seems to indicate is advisable.

If you will permit me to digress for an instant, I will say that in the last three years ending next July I have hired three hundred and ninety-five boys, from fourteen to seventeen years of age, and under the law up to about sixteen months ago the minimum was sixteen years of age, but they cut that down at that time to as low as fourteen years of age. Of these three

hundred and ninety-five boys we have one hundred and ninety-two of them still in our service. I thought it would be a good idea, before finally adopting this loose-leaf system, to try it on the office boys, and I went straight up against a brick wall, so to speak, and it was all over the word "grammar." The instant you said grammar to one of those boys, you antagonized him—he had recollections. I must confess that my sympathies were entirely with the boy, because I had recollections myself, but I at once saw that the trouble was with the word and not with the fact. I said—"Boys, you expect to get somewhere?" Yes, really they all did expect to get somewhere. "Well," I said, "you listen to that man dictating outside in the room." We kept quiet and listened to him dictating. I said—"Boys, is it necessary for me to tell you you need more English than you have now," and it was not. We went to it, and I tell you, ladies and gentlemen, it is a pleasure for me to see the boys working on the loose-leaf manual scheme. It is a real pleasure, and I am glad to say in the last six months we are really getting somewhere. The future looks bright along this line.

One word more. We have in the back part of our head, have had there somewhere, an idea that perhaps we will depend less on boys who are graduates from business colleges and the commercial courses of the high schools and other schools, and that we will take boys that show that they have a desire and have an inspiration such as is contained in the motto which appears over the stage of this hall, and that Swift & Company will take these boys and put them in night schools—I do not like the idea of a boy working six or eight or nine hours a day, and going to night school, I do not like it and do not believe in it—but what is he going to do? He is working for a living. It is our idea that we will take the boys and put them in a first-class night school, of which we have many in Chicago, and see if they do not make something of themselves. We may run into something because of which we will feel it is inadvisable to continue this, but we think we have the right lead.

Last Christmas time we wanted to make a little promise to the one hundred and ten boys I have in my school, to show that we had their interests at heart. We proposed to the boys that if they enter any of the public night schools in the City of Chicago, or any reputable business college night school, or

Y. M. C. A. night school, and show a record of perfect attendance for forty nights we would give each boy a free trip to our boys' camp at Fish Lake, Indiana, on company time and on company pay. If he was present every night he had eight days, from Saturday noon to the second following Sunday night, and if he was absent one night he only had seven days, if he was absent two nights, he only had six days, and so on, and out of the sixty-seven boys, who entered the night schools in the second week in January, sixty-one of them have earned from two to eight days' trip to the summer camp.

MR. E. H. FISH: We have perhaps fifty or sixty dictators who must be able to write letters about things which are going on in the shops—that is, they must have a knowledge of the manufacturing business. These men, when they are first employed, are turned over to my tender mercies for about three months' time, during which time they put on their overalls—it goes rather hard with some of them—and they go out into the shops and into some of the departments in which it is really disagreeable to work. They are shifted about every four or five weeks, and they see the way in which our product is finally finished, and they are given that experience before they are allowed to do any considerable amount of dictating.

Of course, during these rush times which we have had during the last year, we have broken down the rule to a small extent, but we have not forgotten any of those people who have actually started to the office, without going through the shop, as they would have done if we had not been so busy.

After they get into the office and begin to dictate letters, they find themselves up against two men, one of whom is a college graduate and the other is a graduate of the Office Boys' Club. These men read all the correspondence of the new dictators until they are sure they are safe and go alone. They also read as much of the correspondence of the older dictators as they can get around to, and read from time to time all of the correspondence which is written by certain girls of the transcribing staff. They correct the letters of the dictators to bring them in accord with the company spirit. We have a number of dictators who need this influence badly. For example, we have a son of the Director of the local Y. M. C. A. who can, at times, write the hottest letter that ever came off the bat. He will go three months,

sometimes, without going on one of these mental sprees. We have him timed pretty well, so that we can catch him. We have other dictators, of course, that are even-tempered and will go right along without any hitch at all, and we only read their letters to see that they do not get them too flat and stale.

Then we are also doing this for our stenographers, or typists, rather—we use the phonographic system almost entirely. We have been getting them together for a half hour each week and giving them a series of lectures on English, so far as they are allowed to correct the English of the dictators. The dictator is supposed to get the right spirit into his letter. He is also supposed, since a good share are college graduates, to use good English, but the stenographers are empowered to change glaring errors in English providing they know just what they are doing, since it is perfectly possible, in technical matters, for the stenographer to change certain words and change the entire meaning of the letter. That we do not tolerate.

In carrying this plan out in the case of the girls we have evolved a correspondence manual quite closely along the lines this committee recommended.

MISS KATHARINE HUEY (The Curtis Publishing Company): Following Mr. Saunders' remarks about the training of correspondents. In order to create greater interest in round table meetings we found it was a very good plan to select five typical letters which we intended to discuss, make copies of the letters and send a copy to each correspondent who was to attend the meeting, asking him to send us a written report on each letter suggesting criticisms, and also to rewrite the letter in the best possible form.

We then had a lantern slide made of each of the letters under consideration and the Chairman of the Committee, who went over the reports of the various correspondents, compiled from the assembled letters five specimen letters which he considered embodied all the good points and all the justified criticisms of the correspondents. He then had a lantern slide made of those letters.

Later when the meeting was held we threw the original letter on the screen, and presented the arguments of our various correspondents, and at the end of the discussion we displayed the letter in its final form, which was the result of all of the suggestions received.

There are two other matters on somewhat dissimilar subjects that I should like to mention, if I may. One Mr. Atherton spoke of, and that is the question of grammar. We found by calling our class in grammar a class in *correct speaking*, not mentioning the term grammar, that we were able to cover up this fearful bugbear. We have done considerable work, not only with our office force, but with our men from the manufacturing side, with our skilled labor, such as the pressmen and the binders, men who frequently have had little grammar school training. These men were very anxious to get an opportunity to improve their English both for their own development and on account of their children. We do not speak of grammar, but as a matter of fact we give them a practical course in good old-fashioned grammar, dwelling on correct speaking, and correcting the common errors of speech and writing. So much for the grammar.

One more point, which is a little away from the subject. The report of this Committee is splendidly worked up, and there is only one criticism I would like to take up, and that is the "Don'ts to office boys." The office boy needs all the help you can possibly give him and I am glad he is not forgotten, but it seems to me that the very last person in the world to give a lot of don'ts to is the office boy. Our problem is not to check him, but to give him all the constructive ideas and work we possibly can, and keep him busy. Moreover, I question whether, as an Association, we want to put ourselves on record as having a line of "don'ts" for office boys rather than have a few definite and constructive suggestions to keep the boy busy, so that he will not become demoralized.

THE CHAIRMAN: I think we have found in this discussion many valuable suggestions along the line of working from the factory into the office, or vice versa. There was one suggestion which was brought out, and that was that the office worker should have a familiarity with the factory processes. The factory manager of a Cleveland concern told me a short time ago there was only one person in the office, and that was one of the private secretaries, who had not worked through the whole scheme of the factory organization before getting into the office. If that is true, it is evidently a fine illustration of what can be done in this direction. There might be a suggestion there for many of you gentlemen.

It is interesting all the way through this discussion to notice

how it has been found necessary to take up the subject of English in business and present it in a way that will give evidences of the desire and the purpose of the house. As a consequence, I think, we are finding that the old idea of the text-book written by the schoolmaster fitted only for students, and then carried over into business, has been very correctly attacked, and the idea of the text-book which would be applied to the special necessity of each house, as outlined by Mr. Atherton, in the case of his 2300-word vocabulary, is a better practice. It represents the correct grammatical construction of the English employed by the house, and is presented in a way that gives it all the punch and vigor of the advertising man's diction and method, while the construction is fitted closely to the ideals and ideas of the particular industry, without attempting to make a text-book, made up of long and tedious narration of principles illustrated from Dante and the Attic orators.

MR. W. S. McDOWELL (Pittsburgh Public Schools): I am just a guest here. I read over the report, and among some of the suggestions which are thrown out as problems, and they are problems, is one which relates to teaching a boy how to read bad writing. I received a personal letter from a Governor of a certain state, and out of 100 boys in the office there were not two boys who could read the letter. Another scheme is to get some general information into the heads of the boys, and I asked them yesterday to write about Decoration Day, and they could write a whole page of what they did on Decoration Day, but on the subject of Decoration Day they could not write anything. A week ago we tried them on "The Educational Advantages of Boys," and the only thing they could think about was the continuation school they had gone through and the public school they were in before. If any one here knows how to get it across to these boys to learn to read bad writing, or writing different to that they have been accustomed to, I would like to hear about it. I had some letters from the buyer of a large wholesale grocery house, which I considered were in very fine writing, but the writing was different from what the boys were accustomed to, and they could not read it. I would like to get information along the lines of teaching the boys to read poor writing.

THE CHAIRMAN: The only suggestion I would make is that I learned the other day in sending some manuscript to a pub-

lisher that it was perhaps easier for him to read any kind of handwriting rather than a typewritten copy of a technical matter. I do not know whether that is general in the publishing offices, but if it is, I suggest you get in touch with some publisher and he will tell you how to develop skill to interpret all sorts of handwriting. We have a few moments further at our disposal before the time for adjournment, and we would like to hear further discussion of this report.

MR. W. R. DEFIELD: Just a word on the report. It reminds me of the caution the president of our firm (Montgomery Ward & Company) gave me the day I told him I was coming to Pittsburgh to attend this convention. He said: "Are you sure you are not spending time to convince yourself of something you and we already believe in?" I might say some of the reports and discussions presented at this meeting have reminded me of that, in that they did not tell us how to accomplish these things.

This Committee's report seems to give a tangible start to the inauguration of a school system. We believe in schools; we have instructors. We have tried to get away from the policing idea. "Policing" is what I call the supervision of the supervisor, or superintendent, or office manager. We substitute instead instructors. Another thing that makes it hard to get at the office manager, or people of that type, which I have heard mentioned several times in the meetings, is the specializing of work in large offices, the simplifying of the work to the point where it does not require special instruction to handle that particular kind of work. In such cases the office manager of one particular activity in a large organization is very apt to miss the opportunities in other parts of the organization which will serve as promoting points for his people. In other words, he is selfish. We find it so. I think all of you will recognize it. If some way can only be found to make the manager of one office admit that there are better positions with his firm, in other departments, to which he can promote his people, I think we would be getting a long way ahead. In other words, for the office manager of one activity to quit being selfish and standing in the way of advancement for his own people.

THE CHAIRMAN: Mr. DeField has touched on a very vital subject, one which has not been taken up in any of the meetings of this Association as far as I know, and one of the problems in

reference to the corporation schools movement, and that is the reference he made to the orienting of the opinions of the various heads of departments. How far can you go as a leader in the corporation school movement in finding out what the problem is of scheduling these men from lower to higher positions? In my contact with the work of the corporation school, I find the failure to do this is perhaps a barrier to the maximum enthusiasm of the men, because they will say: "What is the good of doing all this work? Some other fellow will get the promotion. You have no record of what I am doing." At least they think you have not, or perhaps they think you are not getting the right kind of a record, and that is a problem we must solve, and it might well be taken as a basis of some future committee report, and be considered aside from some of the pedagogical problems we consider. We should get into some of the corporation problems we have to solve, and that will help us to reach "the man at the top" of whom we have spoken, and convince him that the work is worth while.

We would like to hear how you get over these obstacles that come in the way of promotion, and how you adjust the man who has done good work in the school to the positions that are in the gift of your concern.

MR. E. G. GRANDSTAFF: A word in regard to The New York Edison Company's Commercial School. We find in our Commercial Department that our system of conducting examinations and grading school papers gives us a very good line on the ability of the employees in the department. It is generally known throughout the department that the employees who have the highest school ratings will be considered first when promotions are made. We have found this one of the surest means for stimulating employees to do good school work.

We have also adopted the plan of employing only young men to fill lower positions, and promoting to the higher positions from the ranks, not taking on men from the outside to fill these positions unless absolutely necessary. To do this we keep a personal record of each employee in the department so that we know what his qualifications and capabilities are, and we are able in this way to select those who have the best records. Other things being equal, the man under consideration who has the best average in departmental and school work is selected for promotion when promotions are made.

MR. E. B. SAUNDERS: In my opinion, it is a dangerous thing to promise too much. I do not believe that many of us have it in our power to promise a man anything, and especially promotion. But there are two grounds of appeal that we can make in our school work—one is to tell the man he ought to grow on his job, that we want to help him, and that there is no job a man cannot grow on. That is capable of a great deal of development, if you can make a man feel that by growing on one job he stands out prominently and will be seen when there is a vacancy higher up. That is a safe and legitimate promise.

There is another side on which I think we can appeal to the man, and that is to make his job as big as he can without interfering with any other man's job. That is difficult. Some men make their job big, but they do it by spreading over into the territory of other men.

Now, we can appeal to the men safely in those ways without making promises—grow on the job, and make the job as big as you can.

THE CHAIRMAN: Have you any organized system which is continually on the alert to catch the suggestions and note the growth of the men, or does it come under the ordinary method of imposing himself on the attention of some officer to get the promotion?

MR. SAUNDERS: I am afraid it is the latter, but wish it might be the former. I do not know that you can do these things in a mechanical way. You have to attempt it in a larger corporation, but our office is not so large but what a man can be seen, and as the expression goes with us, when we see a head we hit it.

MR. H. S. McCORMACK (Business Bourse): I have some figures which I think will be interesting, as I have not heard anything in a concrete form as to the results of training office employees and educating office employees. I have the figures of a firm which started three years ago to educate its employees and give them an incentive by working, as we heard here this morning, from the positive, and not from the negative, standpoint, as we find the proposition stated in the report under discussion doing away with the penalties and putting rewards in their place.

The unit cost of each transaction going through the office three years ago was \$1.16. It came down in 1914 to 57 cents; in 1915 to 48 cents. The saving to the firm was \$37,660.92, and

then the increase in salaries amounted to 19 $\frac{2}{3}$ per cent. The further saving last year was \$6,994.31, making a total saving to the firm of \$44,555.23. They believe that with their system of rewards that the cost will go down to 40 cents a unit, and this will mean an annual saving of practically \$50,000.

MR. L. ATHERTON: What do you mean by a unit?

MR. H. S. McCORMACK: Sometimes we will take the unit of an order or the unit of an invoice; that is to say, if you are handling 20,000 orders in a given time, and then you increase that number to 40,000 orders, you will almost double the cost of the order—the more units the more correspondence, the more invoices, the more postage, the more telephone calls, and everything all along the line increases the cost of the unit.

MR. L. ATHERTON: The unit is the entire invoice?

MR. H. S. McCORMACK: Some firms will consider the order a unit. Other firms will consider the invoice a unit. In the staple line, you can figure the order as a unit, and in the specialty line, where there are five or six bills to one order, it may be a little hard to determine, but there can be some unit determined on by each firm to get at the unit cost. The firm I referred to handled 11,247 more orders last year than they handled the year before. They have fourteen employees less, and no employee has been discharged. When any employee left to take another position, or a girl left to be married—one man left on account of his health—these employees were not replaced, their work was absorbed by the other employees in the organization, because part of the savings effected were given automatically to the employees who remained, and their salaries were increased.

THE CHAIRMAN: We will call on Mr. Puffer to close the discussion on this report.

MR. R. H. PUFFER: I think you will agree there have been many interesting and profitable points brought out in the discussion this morning, and it shows us that the real work of the Office School is to develop men. I believe we might do something in next year's report on the standardization of office terms. I find frequently when I talk to people about office work they do not understand me and I do not understand them. I talk of a mail reader, and as their concept of the work such a clerk has to do is different than mine, we do not understand each other.

As I know that you are all waiting to hear from Dr. Steinmetz, I will not take any more of your time.

THE CHAIRMAN: I am sure we have been delighted this morning to see Dr. Steinmetz walk down the aisle and take his position in this forum. It is an unexpected pleasure, I am sure, to you and to me.

This Association generally divides its discussions, as I have said before, into three parts. So far the discussions have gravitated about these three points—man, money and the millennium. Dr. Metcalf is the champion of the man and Dr. Kreuzpointner is the champion of the millennium in our work. This morning I think we have stuck pretty close to the middle ground, the organization, the methods, etc., and have talked upon those points which will lead into the paths of profit for those concerns which will take the time and trouble to study the report of this Committee. All of the elements for a profitable organization and for profit to follow from such organization are contained in this report.

Our former President, Dr. Steinmetz, is a man whose sympathies and studies have led him into many fields, all of which we are acquainted with through his reputation. He has never lost sight of the man, and his philosophy has never lost sight of the millennium which rests on our activities, and which in a measure can be brought about in the greater social service which we can perform.

I know it will be a delight to us to have a few words from Dr. Steinmetz this morning, because we have learned to love him as President of our Association last year.

I have pleasure in calling on Dr. Steinmetz.

DR. C. P. STEINMETZ: It is a very great satisfaction to see our Association succeed, to see that it has passed the period of danger, after the years of hard work which were required to bring it up to the present rapidly growing and prosperous condition; and, indeed, there is, and was, and in the future will be, still to a greater extent a very great need and place for our organization for establishing these closer relationships between all the elements engaged in industry, which are necessary for efficiency, and which have become still more necessary, by the actions which are taking place now in the world, which mean that we must either swim or go down as an industry, a nation or an individual.

We must realize that in this field of education, covered by

our Association, we have one of the fields which is undoubtedly of equal usefulness to all the men engaged in the industries, from the president of the corporation or the great financier down to the office boy or the common laborer. We can all meet, then, and realize that educational efforts are of use to all of us, and therefore there is, and must be, a great future for our Association if we continue with the same interest, the same activities, the same energy to push the work of our Association as we have done in the preceding years, and if we continue to restrict our activities to the same straight, narrow path which at the same time is the enormously broad path of the purpose of our Association; the correlation of the activities of the industrial corporation in the educational field, in enlarging the view of both employer and employee, giving assistance and help to all those industrial organizations which maintain educational efforts or desire to establish them, which will mean, in a very short time, all industrial organizations.

I thank you.

COMMITTEE ON EMPLOYMENT PLANS

MR. F. P. PITZER, *Chairman*

THE EQUITABLE LIFE ASSURANCE SOCIETY
120 Broadway, New York City

MR. PHILIP J. REILLY

DENNISON MANUFACTURING COMPANY
Framingham, Mass.

MR. E. B. SAUNDERS

SIMONDS MANUFACTURING COMPANY
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MR. W. M. SKIFF

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THURSDAY—MORNING SESSION.

EMPLOYMENT PLANS

THURSDAY MORNING—JUNE 1ST, 1916.

SECRETARY LEE GALLOWAY, *Presiding.*

THE CHAIRMAN: The next report to be presented is that of the Committee on Employment Plans. This is, in a sense, a rallying point, or if you wish to put it in another way, an area of atmosphere into which the whole educational work should be concentrated—the employment plan.

It offers a wide range of subjects, and hence a tempting field of discussion. I think to get the most good out of it we should keep within the limits, something like the gentleman who lived in Chicago and came to Pittsburgh and had occasion to telephone out to one of the suburban places. He had used the 'phone for about an hour, and he asked the operator what the toll was, and she said, "A dollar." "A dollar? Why," he said, "when I was out in Chicago I could 'phone to hell and back for 10 cents." She said, "You must remember that you are within the city limits."

MR. L. B. ATHERTON (Swift & Company): I protest on behalf of Chicago.

THE CHAIRMAN: When a protest comes from Chicago, from Swift & Company, you can easily see I might have been beyond the bounds. The Chairman of the Committee on Employment Plans is Mr. F. P. Pitzer, of the Equitable Life Assurance Society, of New York City, and we will be glad to have him elucidate his point of view in connection with the outline report which he has so ably prepared.

MR. F. P. PITZER: Mr. Chairman, Ladies and Gentlemen: I have never taken anything seriously in my life. My job down home in the little town where I work, New York City (laughter) is to show the thousand and one Equitable home office employees the sunshine in their work. It is a very pleasant task. Sunshine doesn't cost very much and in progressive business concerns is rapidly replacing the gas heretofore used (applause).

In compiling this report, our Committee went over the previous years' reports, trepanned and vivisected them, and we found that the various concerns connected with the Association were using methods for employing help as varied as the product which most of you inhaled at Heinz's yesterday. One concern was using psychology, another phrenology and some zoology (laughter), and a few were applying character analysis. The latter were influenced, in many cases, by a man's physiognomy, and because in his youth he got a concave nose from a convex fist, in after years he was put down by the character analyst as being slow, non-aggressive and the other things that go with that kind of a nasal apparatus (laughter).

Now, our Committee admits that there is something in character analysis; that it means something in certain jobs. For instance, the position of professional cheese-tester. I do not know whether there is such a job, but certainly some one somewhere must test cheese to see whether it contains the proper refuse (laughter). Now, for that job it is important for a man to have his nostrils hang high and turn up (laughter). Our investigation brought to light every conceivable plan except one, and perhaps we are coming to that in the very near future, and that is to have female workers selected by a professional chicken fancier (laughter and applause).

We found that perhaps a dozen worthwhile concerns who had centralized their employment problems, who had placed an employment director in charge of the selection of help, in five years reduced their turnover anywhere from 20 to 60 per cent. We argued that if these plans were producing good results for these institutions, we knew that they could, with certain modifications, be successfully and profitably applied to other institutions, and as a consequence, the report which we submit on employment plans is a composite of what is being done by the concerns who have centralized their employment activities.

Before Chairman Galloway makes light of what I am saying, I want to supplement my report with a few philosophic truths, if you will, or even if you won't (laughter), for which my Committee is in no way responsible. In the first place, I want to declare right here, no matter what plan for employing help you adopt, it must be made up of over 50 per cent common sense and judgment (applause). It does not fairly fill the bill for a man

to sit down and apply certain fixed rules and methods. There has got to be something more than that, and I want to say right here that you would have to worry less about those to be picked if you worried more about those who do the picking. Your picker must be a man who can properly interpret human nature, he must be a man who knows men, and a man who can distinguish a heart-beat from a browbeat. You cannot give him any formula and say, "You have got to follow this." It isn't enough.

Another thing, before you are in a position to say that a man is undesirable, you have got to be sure that the rod with which you are measuring him is the right one. I tell you it is a dangerous thing to say that a man is undesirable. Perhaps you are unfair to that man, and so you have got to be sure, for did you ever stop to think that if the man you proclaimed undesirable goes to the next picker and is proclaimed undesirable by him, and so on, what a big human scrap heap you are contributing to? I hope the time will come when, if you really think a man is undesirable, your Company will give you enough time to take that man aside and tell him why he is undesirable; in other words, give the fellow a chance and don't send him away with spirits and ambition doused, because you have labeled him an undesirable and he not knowing wherein he fails so that he might correct himself. In other words, you do not want to chuck up a man, you want to check him up. That is my philosophy, and is the kind we use in the Equitable (applause). Let me prophesy this—that if the scarcity of help continues in the same ratio as it has in the past year or so, you can talk all you want about your pet schemes, but you will have to put them all in cold storage, because it is not going to be a question of whether a man is 75 per cent good or 75 per cent bad; you are simply going to ask, has he two arms and two legs, and if he has, you will put him to work before the other fellow gets him (applause).

Now, why not centralize the employment of help? You take care of everything else in your institution just that way. You have a man responsible for the output of your product; you hold one responsible for the purchasing of your supplies. Why cannot someone be responsible for the help you get into the company? It is not a difficult thing to do. You make a requisition on your purchasing superintendent for a certain quantity and quality of goods. Why cannot you requisition the employment

manager in the same way, stating specifically in your requisition what type and calibre of man you want? It is not a hard problem, and further, your employment manager should have his finger on the pulse of every new employee until he makes good or fails, because if he is responsible for putting him in, he should be responsible for looking after him in the first few steps of his working career and know why you want to put him out. As Dr. McCormack said, "Get the new employee to understand the man and the working problems of the man or firm which is employing him." To my mind that is a very important thing.

We do not intend that the employment manager should usurp any of the powers of the shop superintendent—we do not intend that he should take away authority from a division head, or anything of that kind. What we tried to convey by our report is this—that we should create a harmonious partnership, a partnership which will work to the mutual benefit of all concerned.

I think many of our problems will be less intricate and easier of solution if we have all of our employees enter the door which is marked "Push" and not the one marked "Pull." If we have at that door a doorkeeper, an employment manager, a man who can appreciate that corporations today more than ever in the history of the world are interesting themselves less in red tape and are becoming more interested in red blood, I feel sure all that pass through will be a credit to any institution.

The human failure in business today is the man who loves the output of his product rather than the human beings who put it out (applause).

REPORT OF COMMITTEE ON EMPLOYMENT PLANS

The Committee studying employment plans has read the inquiries made last year of many industries and noted in the answers the wide differences in hiring employees. These differences not only indicate confusion, but also reveal the fact that the question of employment has not received the careful attention it should from those who are seeking to perfect industrial organization and advance labor efficiency.

The Committee believes that an employment department is the objective toward which every well-organized industry should reach. To present the subject of employment as forcefully and clearly as possible, we have adopted the natural order of development leading to the establishment and operation of such a department.

The outline which follows covers the divisions of this problem and presents the legitimate work of an employment department in relation to other departments of the business. Our treatment of the subject amplifies the outline.

A. *Analysis of the requirements for each job.*

1. Necessity for such an analysis.
2. Requisitions for labor.
3. Records.

B. *Sources of obtaining new employes.*

1. Applications.
2. Advertisements.
3. Employment agencies.
4. Schools.

C. *Selection of new employes.*

1. Interview.
2. Application blanks.

3. Types of applicants.
4. Physical examinations.
5. Psychological tests.
6. Moral qualifications.
7. Hiring.
8. Housing.

D. *Placing the employe.*

1. Introduction to superior.
2. Assigning duties.
3. Instructions.
4. Printed information.

E. *Following up of employes.*

1. Reports of progress.
2. Promotion or transfers.

F. *Termination of employment.*

1. Discharge.
2. Laid off.
3. Left on own accord.
4. Conclusions and suggestions.

G. *Employment Department.*

1. Creation of such a department.
2. Functions of such a department.
3. Reduction of labor turnover.

A. ANALYSIS OF THE REQUIREMENTS FOR EACH JOB.

1. *Necessity for such an analysis.*

When a foreman, superintendent or department head is in need of help he should make out a formal requisition upon the Employment Department for the help needed. To enable the employment manager to secure the help best fitted for the particular work required, and thus minimize the cost of turnover, training, etc., it is essential that the qualifications needed for the

job be listed on the requisition. After this is done the selection can be more intelligently made and the position more economically filled.

2. *Requisitions for labor.*

The requisition should originate with the person requiring the help and should be approved or countersigned by the manager, superintendent or some other official. It should then be forwarded to the Employment Department.

The requisition may be retained in the department as a record (being the department's authority for hiring) or passed along as a voucher for audit purposes to the department controlling the payroll or books of the company.

3. *Records.*

The selection of satisfactory employees will be facilitated if the information gathered by the Employment Department is complete and well analyzed.

The Employment Department should prepare and have on file written specifications covering each of the jobs for which non-skilled labor can be hired. These specifications can be prepared with the cooperation of the head of each factory department. They should contain all the information that each foreman's experience can yield that is of value in selecting employees for every occupation in his department.

These job specifications should also contain a brief description of the duties of the job; the schooling or the sort of experience that is desirable in an employee; the posture of the employee, that is whether employee will be sitting or standing, stooping or walking; the preferable age, weight and height of an employee; whether employee should be right-or-left-handed; the starting wage; the time taken by an average employee to earn an advance in wages; the probable maximum earnings of the position, and whether the job is steady or seasonal.

The form used by one large manufacturer is as follows:

Requisition for Help—Detail of Job.

Job No.....	Grade.....	Occupation
Duties		
.....		
Male or Female Required		
Time required to	Previous training	
Learn Job.....	or experience	
Starting	Next	Wage
Wage.....	Advance.....	Limit
Age	Height	Weight
		Posture
Motion	Hands	Eyesight
Schooling	Overtime	
Desired.....	Lay Offs	

It will readily be seen that if the employment manager has an analysis of each job, it will not be a difficult matter for him to fill any requisition acceptably. This record may be kept on cards. If these cards are numbered the filling of the requisition can be simplified, for it need only refer to the number or some other designation of the job.

B. SOURCES OF OBTAINING NEW EMPLOYEES.**1. Applications.**

Every well-established industry receives applications for employment. The number of seekers depends upon many conditions—the condition of the labor market, the prosperity of the industry, the degree of skill demanded, the wages paid, the dangers attending the occupation, the treatment accorded the workmen by the management, the seasonal or permanent character of the work, etc. Jobs are always being sought by men and women, boys and girls of legal age, by those out of employment or by those wishing to better their conditions.

All industries must make some provision to receive new employees. Applicants are required to come to the office or the shop door. They may apply only at certain hours or whenever the office or shop is open. They are referred to the manager, the superintendent, a foreman, a special bureau or employment office, or disposed of by the timekeeper. They are received either in

some prescribed systematic way, or they come and go with little attention or ceremony.

Progressive business organizations have come to realize that the labor problem deserves serious attention and that the wise handling of all questions pertaining to employees is most important. Increasing attention is being given to the source of labor supply, the welcome to be extended applicants for work, the method of selecting new employees and introducing them into the organization. As will be shown in this report, the problem of hiring and firing finds best solution in the establishment of a central employment department with well-defined plans and aims.

A business alive to the necessity of securing and providing for new employees will encourage applicants to come in person. The most natural source of obtaining new employees is from the procession of those who come looking for work. All coming are entitled to at least one interview with the employing officer, and the desirables who cannot be placed at once should be encouraged to come again. It is advisable to keep a waiting list of those who make a favorable impression, recording the name, address, work for which the applicant is best fitted and some rating of the hiring officer. The very coming of the applicant voluntarily usually indicates a willingness to work. Fair and kindly treatment encourages him to repeat his efforts. The industry will gain many splendid recruits from those who show initiative enough to apply of their own accord and persist until an opening is found. On the other hand, the undesirables must be just as strongly discouraged from putting in another appearance by being told firmly, though courteously, that they will not be wanted.

Nothing is gained by holding out false hopes to an applicant. The facts should be stated to him clearly, so that no applicant will feel that he has been turned away without a fair hearing and due consideration. Where help is badly needed signs posted conspicuously often bring satisfactory applicants, as "Boy Wanted" with a description of the work.

Much is gained by creating the impression in a community that the industry wants to give employment to as many willing workers as the prosperity of the business will permit, and no earnest seekers need hesitate to apply.

Wise employers give full consideration to recommendations coming from their own employees. It is assumed that those work-

ing there know best the spirit and requirements of the business. They can tell prospective applicants what will be expected of them. An employe recommending an applicant will feel responsible to the firm and to the workman. It will react upon his own head if the man does not "make good." The newcomer will look to him for help in getting started right. These are benefits not to be overlooked.

There is some doubt as to the wisdom of employing close relatives. Experience has sometimes justified and sometimes condemned this practice. Where such are employed, it is usually better to keep them widely separated. The employment head should at least take account of relationship both by blood and by marriage.

Recommendations from men of influence and especially from business patrons cannot be disregarded. To give an applicant preference because he has a "pull," however, is bound to have a bad influence upon the whole working force. Abuses in the past have made the workers most sensitive and suspicious in such cases. It is becoming an axiom that higher positions especially should be the reward only of merit. Nevertheless, recommendations must often be considered for reasons of policy. The Employment Department can be greatly relieved by the management taking action that preference shall always be given to deserving employes for higher positions over outsiders when there are sufficiently capable men in the organization.

Applications are often received by mail. Almost never should an applicant be engaged without an interview, except in the case of selling agents for distant localities who have been highly recommended. All sincere applications are entitled to a reply, whether or not a stamp is enclosed. A rejection should always be given with some expression of regret. In some cases a little encouragement may be given in the promise to keep the application on file. Where there is a real or possible opening, a series of questions may be asked. Favorable consideration will probably lead to an interview.

Too much emphasis cannot be laid upon the preliminary interview. The employment officer who conducts these interviews should combine broad human sympathy with shrewd insight into character. He will first put the applicant at his ease, then lead him on by judicious questions to express himself without restraint.

The more important the job, the more searching should be the interview. The cheaper grade of unskilled labor may be recruited almost at sight, the man or woman being selected by inspection with but little questioning. More responsible places require that more attention be paid to the applicant.

The foreman may sometimes be called into consultation in interviewing any shop hand, or the executive head any applicant for the position of clerk and stenographer. The employing officer should consider the characteristics of the department head and only accept applicants who can work harmoniously with him.

2. *Advertisements.*

A familiar method of securing employes is by advertising. The best medium is of course the daily newspaper at home or in some place where the labor desired is known to be abundant. For certain classes of help, papers published in foreign languages often bring good returns. This advertising may be done openly by giving the company name or by using some symbol.

Some skill is required in the writing of advertisements for help. The advertiser must take into account many considerations. It is said that in the cities the morning papers reach the higher grade help for office positions and that the evening papers reach the mechanics and manual workers. An advertisement signed with the firm name is apt to have a disturbing effect upon the present employes, while one signed with a letter or number may bring replies from present employes or fail to get answers from those who are suspicious of answering blind ads.

A good ad must not promise too much, but state clearly the opportunities and make prominent the work side. This will prevent future disappointments and discourage idlers.

The answers must be read with discrimination. A poor letter-writer may be a good workman, while an easy writer may lack the most necessary qualities for a given situation.

The best that can be hoped from advertisements is to bring applicants and open the ways to personal interviews.

A new channel to obtain employes is opening through the magazines and especially trade publications. Where quick results are desired, the magazines may be too slow, but where positions require great care in selection, this mode of advertising may prove most satisfactory.

Answering the ads—"Situations Wanted" may also lead to successful results.

3. *Employment agencies.*

Where agencies are honestly conducted they can often be utilized with good returns. These agencies do much in classifying labor. New and higher forms of such agencies are appearing. Industries are lending their aid as typewriting concerns which place stenographers. Associations are cooperating as when engineering societies place engineers. Industries seeking labor should at least be familiar with these agencies and their work, whether or not they find it profitable to use them. The movement which gives large promise of placing satisfactory employes and of stabilizing labor is the opening of free employment bureaus by states and cities. Industries seeking labor should actively cooperate with these public agencies. The applicant is not required to pay the fee usually charged by private agencies and the employer encourages the public agencies to place all grades of labor.

4. *Schools.*

The introduction of vocational courses in the schools better prepares scholars to take positions in the trades and industries. Cooperative courses have been established in various communities to enable students to spend part of their time in the schools and part in the factories or offices. Trade schools are furnishing graduates for the skilled occupations. The technical schools are making large contributions to the great mechanical, mining and electrical companies. The colleges are endeavoring to fit men for business careers. Correspondence schools and evening courses are steadily raising the standard of ambitious workmen and fitting them for larger fields of service.

All schools are ambitious to fit their graduates for places they are competent to fill and willingly cooperate with employers of labor.

C. SELECTION OF NEW EMPLOYES.

1. *Interview.*

Every applicant for a position should be interviewed by the employment manager in private. He should be courteously received and an effort made to put him at ease so that he will

discuss frankly with the employment manager his qualifications for a position. If the employment manager determines that an applicant is suited for his business he should request him to fill out an application.

2. *Application blanks.*

While we doubt that it is possible to get a standard application form that can be used by all industries, we do believe that the following data will be necessary in every industry.

Date of application.

Applicant's name.

Address.

Nationality.

Naturalized or not.

Date of birth.

Height.

Weight.

Married or single.

Number of children or dependents.

Applicant's trade or kind of work desired.

Schooling.

Health.

Previous positions held and reasons for leaving.

References.

The answers to the above questions will enable an employment manager to determine the kind of work for which the employe is best fitted.

3. *Types of applicants.*

After it has been decided that an employe, by reason of his training or experience, is qualified to fill a position, the employment manager will next endeavor to ascertain if any influence might work against that employe continuing permanently in the industry. For example, an employe may have been working in a seasonal industry at high wages and applies for a position during the slack season of that industry expecting to return to his former occupation.

If a worker has been thrown on the labor market because of a temporary slackness in his home town, he may migrate to

another locality in search of a position. Industries which employ labor for short periods can and should take care of seasonal workers from other industries by dovetailing their operations. Industries with permanent positions to fill, however, must be certain that the advantages of these positions will be sufficient to hold new employes from other towns.

Again, an employment manager will meet types of applicants who formerly held positions which paid good wages and through their inability to obtain work may be willing to accept positions paying very much less. The manager should weigh very carefully an employe's reasons for leaving his former position before he can be assured that an employe will be likely to remain on a job if engaged.

It will be seen, therefore, that the conditions surrounding the labor market of each industry should be carefully studied and an application blank should, if possible, be designed which will enable an employment manager to reduce the number of poor selections in his industry to a minimum.

If it is impossible to place an employe at once remarks or impressions should be endorsed on the application blank and this should be filed under the applicant's trade or the occupation which the employment manager thinks the applicant is best qualified to fill. In addition to this, an alphabetical index of all applications should be kept so that applications can be promptly located by the applicant's name.

4. *Physical examinations.*

The practice of making a preliminary physical examination is becoming universal in industry. These examinations are of great benefit to applicants and employers alike. Defects that need remedial treatment are often discovered. Old injuries for which compensation may be claimed are detected. All workmen may be more wisely placed.

The examination should be made in a careful and systematic way. It should include careful attention to the eyes, ears, nose, throat, tongue, teeth, lungs, heart and abdomen.

Professional advice should be given to correct any defects that may restrict the applicant's usefulness.

5. *Psychological tests.*

The mental capacity of an applicant must be determined as well as his physical fitness. Various tests for estimating an applicant's mentality have been suggested. Experiments are being made in the psychological laboratories of our universities and in some of our progressive industries. While these tests are largely inconclusive, they give promise to become of practical assistance in placing new employees advantageously.

The tests that are generally applied to applicants and found useful are the oral questions asked by the employment manager in the interview and written examinations in academic subjects, such as solving problems in simple arithmetic, spelling, punctuation, etc. It is with a view to arriving at more thorough and accurate results that the new psychological tests are being developed.

6. *Moral qualifications.*

An employment manager gains first impressions of the moral qualifications of an applicant by the straightforwardness of his manner, his frankness in answering questions, the directness of his look and the sincerity of his voice. Experience in hiring help should make the manager's intuitions keen and sure.

But all impressions will need to be verified. This can be done by writing former employers or some responsible person in the applicant's community.

If the position is one of special responsibility and trust, close inquiry should be made as to the applicant's honesty, habits, associates, and general conduct. Where money or articles of value are handled, as by bank clerks, retail sales persons, conductors on street railways, etc., thorough investigation as to honesty is essential.

In mechanical industries where employees work under close supervision and where the temptation to steal is very limited, many employers do not require so many references but depend upon the employment manager's judgment.

Employers frequently obtain information about applicants from employees already in their service, since groups of employees come from the same sections. This has been found a very satisfactory means of checking up an applicant's past record.

7. *Hiring.*

When the decision to hire has been reached certain definite facts must be agreed upon, such as wages, hours, overtime, vacation, etc. These matters should be clearly understood so that the new employe will not be misled by any exaggeration. Obedience to superiors and the general rules of the organization should be emphasized. The new employe must be made to feel at the outset that he is becoming part of an organization that will make demands upon him that he cannot escape. Detailed instructions can follow later.

8. *Housing.*

The employment offices should be prepared to assist newcomers in obtaining suitable living accommodations.

D. PLACING THE EMPLOYEE.

1. *Introduction to superior.*

Where possible the new employe should be introduced to his immediate superior and by him to his co-workers.

2. *Assigning duties.*

His duties should then be assigned him and definite explanations given.

3. *Instructions.*

After an individual has been employed he should first be made to feel that he is an integral part of the organization. Through cooperation between the Employment Department and the management he should be given such assistance as may be practicable to insure his maximum development, and to promote that feeling of cordial cooperation between employe and employer so much desired. He may learn about the organization of the company as a whole, but should by all means be informed regarding the organization of the department which he is entering. He should be made to understand clearly to whom he is responsible and for what he is responsible.

4. *Printed information.*

Many of the larger corporations have found it to be of advantage to print and distribute to employes general information and instructions. This information is usually given in an "Employes Manual" arranged somewhat as follows:

1. General Information.
 - a. Working Hours.
 - Starting Time.
 - Closing Time.
 - Absence.
 - Tardiness.
 - Time Clocks or Records.
 - Pay Day.
 - b. General Conduct.
 - c. Accident Compensation.
 - d. Industrial Insurance.
 - e. Pension Plans.
 - f. Saving Fund.
 - g. Promotion Plans.
 - h. Suggestion System.
 - i. Medical Service.
 - j. Lunch Room.
 - k. Recreation.
2. General Policies toward
 - a. Customers.
 - b. Departments.
 - c. Employes.
3. Organization of Company.
4. Functions of Departments and their relations one with another.
5. Personnel.

When it is impractical to go into this as elaborately as outlined above, a few typewritten sheets setting forth what the employer expects from the employe and what in return the employe may expect from the employer cannot but be of assistance. The possession of this information in the midst of strange surroundings puts the employe at ease and thereby assists him to adapt himself to his new work.

Some companies operate a system of class instruction carried on under the jurisdiction of the Employment or Educational Department which has distinct advantages. The National Association of Corporation Schools exists to aid and promote all forms of educational work within the industries.

Some concerns depend upon the instruction to new employees being given by the foreman of the department where the employee starts work. When verbal instructions are given, care should be taken to see that the one giving these instructions does so in a friendly manner and that he is specific, painstaking, patient and thorough. Sufficient time should be allowed each individually to comprehend fully his work. When the employee grasps things slowly, too much instruction should not be given at one time. Where the work is standardized, the instructions may be printed and the work carefully checked to determine the employee's efficiency. His progress or failure should then be recorded by the employment department.

E. FOLLOWING UP OF EMPLOYEES.

1. *Reports of progress.*

Accurate, periodic records of each employee's progress should be maintained for use in the Employment Department. These may be used for determining those who are worthy of advancement or who are unfitted for the work undertaken. These records may be in the form of reports made by the foreman or department manager to the Employment Department. If it is determined that the employee is not suited for the particular work at hand the Employment Manager can usually arrange for his transfer to work for which he is better fitted.

2. *Promotions or transfers.*

The policy of making promotions from the ranks of employees is recommended whenever possible. By so doing a much healthier spirit will prevail, as each individual will continually be impressed with the company's policy of fair dealing and will be induced to exert himself in proving his worth. When the reports noted above show that an individual is not attaining the standard set, his case should be investigated. If it is clearly

a case of incompetency, discharge must unquestionably result. But if, as is more often the case, the individual is better fitted for some other class of work, the Employment Manager can in most cases effect an advantageous transfer.

F. TERMINATION OF EMPLOYMENT.

1. *Discharge.*

Discharge should be resorted to only as an extreme measure in punishment for misdemeanors, incompetency, or other just causes. No employe should be discharged or laid off without first consulting the Employment Department. When an individual is discharged he should be fully acquainted with the reasons for such dismissal. He should be made to see why the company to maintain its standards is unable to continue his employment. By handling the situation in a tactful manner, the dismissed employe may go away feeling that he has been justly treated.

2. *Laid-off.*

The laying off of an employe either on account of a misdemeanor or shortage of work should in each case be taken up with the employe and the reasons for such action explained. By so doing he will be in much better frame of mind to return to work when wanted. In case of impending lay off the employe should be notified as far in advance as possible. In some cases, the practice of shortening the working day prevents lay off. Conditions will indicate which plan is advisable.

3. *Left of own accord.*

Whenever an employe leaves of his own accord an effort should be made by the Employment Manager to determine and record his reasons for leaving. By doing this much information will be obtained which will assist the management in determining the policies which should regulate the relations between employer and employe.

4. *Conclusions.*

A periodic summary and analysis of the employment records will guide the management in eliminating the causes of excessive

labor turnover, and will assist in the ultimate solution of the employment problem.

G. EMPLOYMENT DEPARTMENT.

1. *Creation of such a department.*

The foregoing suggestions should be of value to any one whose duty it is to engage and instruct new employees. But if these suggestions are heeded, problems relative to employment will be handled through a central employment department at the head of which should be a man whose training enables him to meet successfully the problems that such an employment department will face.

The work of a central employment department can best be handled by a man who is not only a keen judge of human nature, but who is also thoroughly familiar with the needs of the business. When possible he should be picked from the ranks and he should be familiar with the policies and customs of the industry for which he will be called upon to select employees. He should study all applicants and make himself expert in determining the fitness of candidates for the different grades of work.

The central employment department is already a part of the organization of many progressive industries, and the splendid results which these departments are achieving justify beyond question the wisdom of having all problems relative to the human element in industry handled by a department whose special study is to solve them with entire satisfaction both to the employer and employe.

2. *Functions of such a department.*

To sum up the functions: The employment department should make a study of the sources from which a supply of desirable labor may be obtained; it should become entirely familiar with the essential qualities or training an employe should have to be successful in any position in its business; it should interview and select all new employees; it should follow up each employe accepted to see that he has been placed to advantage, or transferred to other work, or dismissed from service if he has not been satisfactory; and finally, it should profit from the ex-

perience that it passes through daily so that it will be instrumental in having its employers put into effect measures which will result in greater efficiency and contentment.

3. *Reduction of labor turnover.*

The wisdom of establishing central employment departments in industrial or mercantile organizations is significantly confirmed in the reduction in labor turnover which invariably follows. Labor turnover is expensive, since it costs from \$10.00 to \$200.00—depending upon the skill required, the loss in production and the increased waste—to replace an accustomed hand. A labor turnover averaging 100% is so frequently found in organizations which have not studied their employment problems that this average may be said to be typical for such organizations.

An instance of what has been achieved in the direction of reducing labor turnover by one company which studied its employment problems is shown by the following:

<i>Year</i>	<i>Labor Turnover</i>
1911	68%
1912	61%
1913	52%
1914	37%
1915	28%

The company which furnished these figures reorganized its employment department in January of 1914. It employs about 2,300 persons and estimates that it costs on an average \$50.00 to replace an accustomed hand. On this basis the savings by reducing the labor turnover which have been effected by this company during the years of 1914 and 1915 approximate \$25,000.

Respectfully submitted,

F. P. PITZER,

Chairman, Committee on Employment Plans.

New York, April 4, 1916.

THE CHAIRMAN: I am not surprised to have Mr. Pitzer acknowledge that insurance companies are in league with black hand societies. Some of us who have met their agents have suspected it for some time. His description of employment methods and the psychological approach seems to give support to the definition of psychology which says that psychology is common sense with a college education. Mr. Pitzer has kept the common sense view along with all of his "illuminating" talk on the subject. Education, as he says, must be connected with some kind of employment policy; therefore, through all these plans must run some consistent philosophy that all these employment plans may tend toward certain definite betterment of the men individually and of society generally. It seems to me that many of the efforts put forth by corporations to better the conditions of the men, to increase the *esprit de corps*, etc., have perhaps in many cases brought discouraging results. For example, take some of the grievance committees which have been established by corporations to meet certain practical problems. I doubt very much if any of them thought of the broader setting which these grievance committees might have. Yet if one takes the time and trouble to look into the history of America he will find that our democratic principles of today were the outgrowth of grievance committees. The Boston Tea Party was a grievance committee and we have had hundreds of others in the history of the United States which set the philosophy of political democracy going. Simply because the grievance committee system in a factory fails, owing to a narrow conception of the principles involved and a lack of machinery for its execution when the pressure of practical problems of everyday work bears upon it, does not necessarily imply that the idea is wrong nor should it be a cause for discouragement.

The problem of democracy is a big one, one of slow growth, and our grievance committee in the factory and all other means by which we are bringing in the new representative element into business will in time blossom forth into a real economic democracy. These features of the employment plan are only another step in the direction of that great social goal, the introduction of democracy based on representative government into our economic system. I know that you will have many points of view with regard to this and I hope we will have a ready and thorough discussion.

MR. C. E. SHAW (Dennison Manufacturing Company): Mr. Chairman, Ladies and Gentlemen. From Mr. Pitzer's introductory remarks, I gather that as an employment manager he must be very successful, because of the peculiar way in which this report was gotten out. He gets other men to work for him. He has asked me to tell something of the Employment Department of the Dennison Manufacturing Company up in that foreign country of Massachusetts, and to say something concerning the success we have had in reducing our turnover or decreasing the cost of hiring and firing.

The policies and methods we have used in reducing turnover would take us into every branch of work and field of work that is covered by the report of the Committee on Vocational Guidance. It seems to me there is not one thing mentioned in that report that cannot be used to great advantage in the reduction of turnover.

First of all, we have a centralized employment department, in charge of a man who has the human interests at heart. He is guided in his selection of employees chiefly by an analysis of occupations which we made some two years ago. We went all through the plant and determined the physical and mental qualifications and characteristics that a man or girl should have to become a success upon each job. We are not yet prepared to say that psychology can play any great part in the determination of the fitness of an employee for any particular job, but we do believe that we have attained some success by careful consideration of the physical and educational requirements of each job. We give consideration to such things as height and weight; posture (whether the employee must sit or stand at his work); eyesight, as pertains to color; and also the amount of education that the boy or girl, man or woman, should have to succeed in the position.

With this analysis of occupations which the employment manager has at his hand, he is able to make a thoroughly good sizing up of the raw material in human form which comes to him for employment. I may mention here that we use the requisition system for new employees—that is, the foreman or superintendent who needs help makes out a requisition the same as he would for material. After the employment manager has selected several men or women for certain positions, a few of them are

placed in a training department where they are given the fundamental steps in learning to do their work efficiently. Those who do not go to the training department are put directly to work under competent instructors in the plant itself. The first step in reducing the turnover comes, I think, in the close follow-up made by the employment department after the man is on the job. The employment manager follows him up in two ways: First, he determines his fitness for the work, whether the man has succeeded at the work, whether he has made a wise selection. If the employment manager has not made a wise selection, the man is transferred to some other line of work.

We have in our plant, we believe, in the neighborhood of 150 individual occupations, and it is a strange human being, a peculiar individual, who cannot succeed at some one of these 150 occupations, provided the selection in the first place has sifted out the mentally and physically unfit.

The second thing that the employment department does, which is of equal or possibly greater importance, is to follow up the man from the wage standpoint. We never let a new man stay on a job in our plant for over eight weeks, without the foreman or superintendent being checked up to be sure that a change of pay has been made if the man is satisfactory. If at the end of three months we find a foreman has failed to do this, there is pressure brought on the foreman to report the reasons why the man is not fitted for a change, and if the man cannot fill the job satisfactorily, he is transferred into some other part of the plant by the employment department.

We do not lose sight of the man and let him rot out on the job. This continual transferring of men has played a very prominent part in the reduction of our turnover during the last five years.

Another thing that has helped in the reduction of turnover is an analysis of the reasons for employees leaving the employment of the company. Up to five years ago, little attention was paid to why people were leaving our plant. For the benefit of any of you who are not paying attention to these reasons, I will say that there is no more fruitful field for learning the working conditions of your plant than to interview the man who is leaving. With the proper kind of man to do the interviewing, you will get at conditions you will reach in no other way regarding the

conditions of work in which the man who is leaving has been employed. An analysis of these reasons for leaving gave us an opportunity to correct bad conditions which had not been forced on our notice previously, and also brought to our attention cases in which the foremen were, perhaps, injudicious in their treatment of the men under them, especially the new men. That is an important factor in studying how to reduce turnover.

These points I have made thus far concern themselves primarily with the employment department functions. Another very successful method we have used to reduce the turnover concerns itself with the managerial end of the business. Contrary to what many of you might suppose, our business was not originally the making of Christmas goods or tags, labels, etc. We manufacture very largely staple items in use the year round, but in one division of our work—jewelers' findings, paper boxes, cases, and the like—we have a natural low point in the production for the year which comes early in the spring. We are situated in a little town where girls are difficult to obtain—the sort of girls we are looking after. This meant that while our box division would be worked to its utmost capacity from the first of March to the first of December, there would be a period of four months in which there was little to do. The cost of training a girl for the work is from \$50 to \$75 per girl.

To allow these girls to get out of our plant would mean the expense of the training of the new hands, as well as the cost due to the increased turnover. For that reason, we started a holiday business, and we use this holiday business at Christmas time as a means to keep our plant going during the period of small production, and in that way we maintain a line of work for all of our employees during what would naturally be the slack period.

Another important feature which will enable you to reduce your turnover, as it enabled us, is in the matter of grievances. We have an expression up our way something like this—that "it does a man good to get it off his chest." It is not always the big grievances that cause the trouble, cause people to leave; it is the little grievances during the day between foremen, between the men themselves, or between the man and his foreman. Suitable machinery should be provided whereby a man feels free and easy to get off his chest anything that is annoying him or causing friction in his surroundings. Where these little grievances are

allowed to exist unchecked, they will grow to great magnitude, and by and by they assume absolutely abnormal proportions compared to what the original cause might have been. Machinery for getting the troubles out of the man's system, and returning him to a normal attitude of mind, has to come from the management down through the employees; it cannot come from the workman up to the management. All of us who are not strictly on the managerial side of the business should do all we can to influence the management to let a spirit of frankness and square dealing with the employees permeate down through all the ranks.

The last point I wish to make among the many that could be made in connection with the reduction of turnover is in regard to the foremen. I find at the convention this year very little has been said about educating the foremen, about our dealings with the foreman in general. We find that a very important problem. We have talked about educating office help and educating the working men themselves, and also educating our executives, but there is that point in between the executive and the workingman, the management and the workingman, and that is the foreman. We find that we have as important work to do to deal with the foreman, teach him how to deal with the men under him, and how to keep up their interest and spirit in the work, as in any other part of our work in the organization.

The other things that go to reduce turnover are the things you find in so-called welfare work. We call it industrial service work—lunch rooms, relief associations, clinics; anything that goes to make the men feel easier and happier on the job has its natural reaction in the turnover of the industry.

How much can be done in that direction is illustrated probably by the figures given you on the last page of this report, showing our five years' reduction of labor turnover. In 1911 the labor turnover was 68 per cent; in 1912, 61 per cent; in 1913, 62 per cent; in 1914, 37 per cent, and in 1915, 28 per cent, which is all brought about by the application of the principles I have tried to outline.

THE CHAIRMAN: After listening to the very practical methods which the Dennison Manufacturing Company is using to show its interest in how to make better men and more profits, I wonder if the Committee used its tests in the selection of the Committee? I should like to hear from Mr. Skiff, of the National Lamp

Works of the General Electric Company, as to the work he is doing in the mechanical end of the efficiency department with which he is concerned.

MR. W. M. SKIFF: I should like to call your attention to the fact that the committee in compiling this report attempted to adhere steadfastly to one definite purpose. This was to formulate a plan of employment which might serve as a guide. We do not believe or expect that any plan which might be conceived would be a plan that could be put into entire use in any organization, but it was our hope that possibly some definite employment plan might be helpful to those contemplating the establishment of an employment department. One can go through the plan as outlined and take only such portions as he can use through adaptation to his organization. It may be of interest to know that this report has already given assistance to at least one organization in exactly this way. It is the hope of your committee that others may be able to benefit by the use of some of the ideas inaugurated in the report.

THE CHAIRMAN: There is still one big factor in the Association that it seems to me the subject of employment plans would be of vital interest to. We have heard from a big insurance company and also from two large manufacturing concerns. There is still the element of the department stores. Perhaps we can hear from some of our representatives connected with department stores. I wonder if Mr. Tily will say anything about the methods of selection of employees in connection with department store work.

MR. HERBERT J. TILY: I have not very much to say, for which I am sure the delegates will thank me, as it is nearly half past twelve.

Probably no industrial business has the problem of labor-turnover that the department store has. We cannot control, as you can, that which we have to produce at a certain time. The control lies with the public. The turnover is enormous, and must be, unless there is to be kept on the roll of an institution a greater number of people than will be wise, because of the cost. There has, however, an attempt been made, and we have met with a considerable degree of success, in keeping a very large, capable staple force. On them we spend most of our time, as they stay with us from year to year, and throughout the

entire year, and they are properly educated and properly disciplined.

There has been an attempt made to educate the public, to a certain extent, in so far as their shopping habits are concerned, in the interest of reducing this turnover. The reason for making the reduction has been from the standpoint of the woman who is interested in the woman, and anything which helps us in that regard we welcome. I may mention one way in which the public is being educated to help—this is in connection with the Christmas season.

Due to the fact in each family there is a budget or appropriation month to month for the needs of the family, and due to the fact that the department stores have taken advantage of this class of trade, the mercantile institutions have opened charge accounts, the housewife spends her money early in the month, and toward the end of the month she is inclined to postpone her further purchases until the next month, as she has consumed her allowance. Consequently, the Christmas purchasing, except where the prosperity of the family is such that it does not make very much difference whether they buy in November or December, may be almost nil in the month of November. You know that the custom of making Christmas purchases in the month of December, and at times well toward the latter part of the month, just before Christmas, brings about—not only wear and tear on the employees in your working force, but wear and tear on the patience of the shopping public.

The Consumers League working all over the United States took this matter up some years ago. In order to mold public opinion in the matter, they began a campaign first of all for the closing of the stores at night. The store which I represent never kept open at night. We felt that night work was not good work. It was not possible to have two forces of people, one to work during the day and one to work at night, so we never kept open at night. The Consumers League worked through us, and with us, to abolish the keeping open of department stores at night in Philadelphia, and now no self-respecting department store owner keeps open at night. We hammered at it in our advertising for many years. We said that night store keeping was a provincial thing, and everything else nasty that we could think of, as we wanted the other fellow to close up, so despite the

pressure on us to keep open at night we resisted and finally won out.

The Consumers League is sowing the seeds of a sentiment favoring early Christmas shopping throughout the United States by getting it into the mind of the school girl, and letting her take it home, and the League is doing an excellent and admirable work in this regard.

The League is also endeavoring to stabilize demand; in other words, they are endeavoring to influence womankind to not have quite so many seasonal demands. The ladies in the audience will agree with me that when they want a hat when they want it, and they want to know what the *latest* word is from Paris when they buy it. If they want a hat to wear in May, they will not buy it in January. At the same time, there is a movement, even with regard to millinery, to get some way of controlling or regularizing demand sufficiently to have millinery made all through the year, instead of having hundreds of employees in the millinery work rooms in the season, and only tens of employees in the millinery work rooms out of the season. I mention these facts to show that we have a problem peculiar to the department stores, and we have to make a very careful study of all the conditions in order to meet these various problems.

We are also studying, of course, the men and the women who are with us, we are studying everything pertaining to our employees, and the problems incidental to them. I go away from these meetings with ideas which are applicable back of the silk counter gained in hints from the man who is employing people who are handling steel ingots, making rails and handling the bigger and coarser things in manufacture. If I get this inspiration to use for the more delicate work in which we are engaged, I believe it is absolutely true of all the work which has been done in this room. In the language of the motto over the stage, "Here Inspiration Spreads Her Wings."

I am sorry I cannot give you anything more helpful than that. Some one said earlier in the Convention that a man who does not know the particulars of his job always generalizes. I know the particulars of my job, to some extent, but I like to generalize, because back of all detail work is some form of generalization.

THE CHAIRMAN: If there is no further discussion, I will ask Mr. Pitzer to close the discussion on the report of the Committee.

MR. F. P. PITZER: I wish I had a few days to tell you all of the good things we do in the Equitable. We try hard to keep everyone out of the dumps, if you will excuse the expression, or even if you wont. We have a Sunshine Committee composed of twelve members who just bubble over with good nature and happiness and optimism. They are always ready to lend a hand, always help a clerk to push away the gloomy spots. And it isn't all words either, but deeds as well, and often a convalescent receives a basket of fruit, a bundle of magazines or a box of candy just to cheer the way to recovery.

Then there is the pension scheme. Although we have many clerks of long service in the Equitable, it is not making us feel uncomfortable, for we make life so pleasant for our clerks they never worry and being devoid of worry they never grow old and never growing old the—but why go further, the result is obvious. (Laughter.)

Then there is the free insurance plan, by which every Equitable employee, after one year of service, receives insurance free of cost to him, up to the amount of his annual salary. The only thing we fear is that this insurance makes them too happy; it tickles them to death to get it and that naturally affects our mortality experience. (Laughter.)

We have a liberal sick leave and an extra vacation period all based on length of service; we have a scheme for rewarding punctuality and attendance; we have a short working day, good compensation for overtime and all these things help to keep our turnover down to a low figure.

In other words we do all that we can to relieve a man of his worries so that he can perform his work with a mind more free and consequently bring it to a higher standard of efficiency. Besides his work is better performed because he is able to concentrate and give the biggest portion of his thoughts to his work, for we have relieved him of many of his burdens.

In conclusion I want to impress upon you one sentence which I trust we will carry home with us—it is this, when selecting help in applying your varied methods whether psychologic or scientific, do not overlook red blood. Let us remember that while there are no men all good, there is some good in all men,

so be sure that the rod used by you for measuring an applicant is not skipping that part which might fit into your company. I do not care what kind of a box of tools or instruments you are using in your work as long as you make sure that there is a stethoscope among them.

ROUND TABLE DISCUSSION—EMPLOYMENT PLANS.

FRIDAY MORNING—JUNE 2ND, 1916.

THE CHAIRMAN: I will ask Miss Huey to preside at this meeting. I did not know that I was supposed to preside, and I have an Executive Committee meeting on and two or three other things to attend to. If there is any one who feels so disposed to start something, I would be glad to have them rise immediately.

A DELEGATE: It is considered wise for those who have employment departments to have all types of employees pass through one office, in other words, submit to the examination of one employment officer? A great many factories, I have in mind our own factory, have girl employees, skilled labor, unskilled labor, office employees, etc., and should they all pass through one office?

A DELEGATE: That depends entirely on the industry, of course. The Railroad employs one hundred and fifteen thousand employees on the Lines East, and they have all classes of employees. They consider it impracticable to have an employment bureau. The Railroad does have a definite plan of employment. The man who has charge of a department employs his own men. We have a physical examination in the case of all above the unskilled grade, and they require an educational test, which is very slight, and they require references, both written, as to their previous employment, and personal references. The personal references are looked up in certain classes, not all classes, by our police department. They go to the neighborhood that the applicant comes from and inquire of the neighbors, or possibly the grocery store, etc., about the man, just what kind of a citizen he is, and see if he is suitable for the service. We find there are quite a number of undesirable men apply whom we discovered in that way, and for that reason they are not taken into the service. We have a definite plan of employment, but no employment bureau. To answer that question, I think the char-

acter of the industry must be considered, as to whether there should be one or more employment officers.

A DELEGATE: May I say something about the centralized bureau? We have a centralized bureau for every kind of help, whether office help or unskilled labor. The great advantage of that is by a centralized office you can keep in touch with all classes of labor that come in. Suppose you have the selling force and manufacturing force separate, a good, excellent manufacturing man will go in for selling work, and because he is not fitted for selling work he will be lost, whereas he would be worth a good deal in our industrial work.

I am strongly in favor of *not* having the central employment office employ, but having a central employment office to select, and recommend those they select, and in that way you will get the best choice.

Another point comes in there, I presume at least fifty per cent. of the people who come to me for positions ask for positions for which they are not qualified. They will come in, for instance, and say, "I want to be a fly boy." A fly boy is one of our very unskilled, insignificant labor jobs. It has not any very great future to it, and therefore we do not put good material in fly boy work. Why does the boy want to be a "fly boy?" Tom Jones is a fly boy, and some other boy came on yesterday as a fly boy. As a matter of fact, we often find a boy is much better fitted for something else. The average applicant does not know what he wants to ask for, because he is not familiar with the business of the company.

A DELEGATE: I would answer the question about the advisability of having all employees go to the same office. In our works, we do not think it practicable to have all employees go to the same office, for the reason that the operating people go through a different entrance from that used by the technical people. To have charge of our operating forces we have selected a man from the operative end of the work and we do not consider that he would be a proper official to employ draftsmen, for instance, or other office people. Of course, he might do it after a way, but his office is not in the administration building, in the first place, and we have such a great variety of trades there, that I would say that in such a case as that it would not be advisable for the same man to handle both classes of labor.

We have our force separated into the technical and clerical division, on one hand, and the operative division on the other hand, it is all co-ordinated, however, through the ordinary employment papers that come in from the employment agency office, and go through my office, I being the Secretary of the Board. I handle the employment of the clerks.

A DELEGATE: What has been said is very edifying. I had in mind at the time that I asked the question the course which Dr. ——— of Dartmouth College has established for training men for employment work. The Doctor tells us that an employment manager should be a man of very great capacity, and should have a knowledge of practically all lines of work within the plant with which he is connected. Now, it seems to me that we have the same problem here that we have with regard to teachers in our corporation schools. Some one said the other day that it was much easier to accomplish good results by taking some one who was a trained teacher and have them study the methods in the corporation rather than to take some one who had studied the methods, who had worked with the process, and endeavor to make a teacher of him or her. Have we not the same proposition here? Take some one who has that ability to intuitively, as Chairman—— has said, to select employees; or who can give them scientific tests, or take some one who has that training and ability to permit him to study processes so that he may be able to correlate jobs with persons.

A DELEGATE: From the merchandising or commercial standpoint, we find it desirable to concentrate employment in one spot, not alone from the point of fitting people to the position for which they may not think they are fitted, but from the point of view of concentrating the records, handling the physical examinations, and for working with the educational department which handles the new employees.

THE CHAIRMAN: I am somewhat at a disadvantage, in having come in late and not having gotten the drift of the argument. Is this an argument for or against the central employment department?

A DELEGATE: We are just discussing it in a general way. The question was raised whether it was desirable to have a centralized employment bureau or to divide it according to the operations.

A DELEGATE: I will speak with reference to our employment of clerks for the home office of the ———— Life Insurance Company. There are, of course, many divisions in the company, and the clerk who would sit in one division might not sit in another division, but we have this plan—we have a central office at which all applicants apply. We had an expert psychologist draw up a series of tests which cover the main requirements in mental agility, English, arithmetic, handwriting, etc., and also a medical examination is required, and a very thorough medical examination is given.

These examinations are held at intervals as the need arises, and the applicants who pass the examination are put on an eligible list. When an opening occurs in any department, the department head applies to the central employment bureau for a clerk. The central bureau sends a number of applications, together with the test, with the result of these examinations, to the head of the department, and the head of the department selects one or two of these candidates whom he thinks are likely to best fill the position, and then he writes to them, and in this way he has a great advantage in selecting the right man for the position.

A DELEGATE: Our employment department consists of a health division, an employment division, an instruction division, and a welfare division, so that we have an opportunity of getting the records, the physical records and the records from the school, and also the welfare records before we make our recommendation, and also, I want it clearly understood, we encourage managers to reject any one they want to reject. We merely recommend, and we recommend four or five of the best candidates we have, but, of course, it is up to the skilled manager who knows the requirements of the work to decide which is the better man, and if none of those whom we recommend suits him, we will give him five more or ten more.

A DELEGATE: In the new aspect of employment, as a function of management, and it only begins with the selection of the employee and continued with relation to the employee as to educational and other matters, it is the practice of the companies to have physical re-examinations, as is the practice of the life insurance companies now, or the privilege of re-examination, as a preventive of possible breakdown physically, is that the part of the program of any of the companies.

THE CHAIRMAN: How many companies represented in this audience have such a practice of examinations and re-examinations?

(Delegates representing the Metropolitan Life Insurance Company, the Equitable Life Assurance Society, the Eastman Kodak Company and the Phoenix Mutual Life Insurance Company report such practices in force.)

A DELEGATE: Our practice is to have re-examination. We do not have it on a very formal basis, but re-examination as occasion requires.

A DELEGATE: I will tell what was on the minds of the Committee while we were working on our report. We intended that the employment manager should be a big job, it is becoming a profession very rapidly, no question about that. The time is not far distant when the employment manager will be one of the big men in your institutions, you cannot get away from it, and until that time comes I say your employment should be centralized, and if you run up against any difficulties, for instance, in the case of skilled labor or unskilled labor, office help, etc., there should be a superintendent of employment put on to assist, or you might have two such superintendents, one of whom can be a specialist in technical work, but you should keep it centralized. I do not believe in recommending. I believe an employment manager should say this man is fitted for this job, for that job, and stand or fall on that decision. You are either a good selector or poor selector, and that is what is going to make that job important. It is a big job, handle it as you will.

A DELEGATE: What it ultimately comes down to is that it simply recognized employment as a function in the modern functional type of organization. Business organizations generally go through a period of transformation. We still have the military type of organization with us, and it is difficult in the military type of organization to introduce a function there of employment, or purchasing, or some other kind of function, but a study of organizations leads one to believe that with the introduction of the functional type of organization, employment as a function will be clearly recognized, centralized and placed in the hands of the best specialist fitted for the work.

A DELEGATE: While Mr. ——— is correct in the main proposition, yet when the problem of establishing a centralized

employment bureau in connection with certain industries is considered, he will find that it is absolutely necessary that the method of the ——— Publishing Company, or some modified method of selecting people in co-ordination with the foreman, and even submitting to the foreman certain cases, or certain offerings, if you please, certain applicants for selection, is the better plan, and in any event while we agree with the principle I believe there are modifications that must be made in connection with certain industries—that the centralized bureau cannot say "Take this man." The employment manager cannot say that, he must say, "select"; he must give a pick in certain lines of industry. I may be wrong, but that is my idea.

A DELEGATE: Is it not part of the work of the office school to weed out the undesirables picked by the employment manager and the school should say whether the applicant is fit to go into the office work, rather than the employment manager. The school stands between the employment manager and the work of the office.

A DELEGATE: Does it, no. Some one suggested the other day that every time we employ a man, and then fire him, we do him a harm, and that question should be answered "no."

A DELEGATE: I think ——— & Company have the right idea on this. They have their three distinct employment departments and those three departments are presided over by the same person. I happen to be the unworthy person, but think the system is right. If I select young boys of eighteen, and they fall down, it is the fault, in the first place, of myself as employment manager, and in the second place, of the educational system. For the two to go together, hand in hand, is the right system. Employment, as a function, covers not only the initial selection, but also the training and assignment and development and discipline of the employee initially selected.

A DELEGATE: Who passes on discharges?

A DELEGATE: Regarding the question raised, if you recognize Union Labor, you cannot have the employment manager employ and discharge, because one of the things the Union stands for is that the man will only recognize his foreman. His foreman hires him and discharges him. In some of our divisions where we do have Union Labor, the manager of the division will not discharge an employee, but must tell the foreman to do it. Those are the Union rules, we have that to meet.

A DELEGATE: I do not think the employment manager should have the right to discharge, but I think before the man is discharged, the employment manager should know about it. The man may not fit in a particular job, and it is up to the employment manager, if a job is open, to tie the man in that job, particularly in regard to the clerks.

As to mechanical work, I am not a mechanic, and the nearest I have ever got to being a mechanic was in picking a dime savings bank apart.

We say that the job should be analyzed. Each particular job has only certain things connected with it. Analyze it and put it in the employment directors' hands, and modify the application blank to fit in with the analysis, and all you have to do is to measure up the applicants to see if they comply with the analysis. It does not sound so, but the job and the applicant should be analyzed and matched up.

A DELEGATE: Do I understand the foreman is to get the employment directly from the employment manager without any selection at all on his part?

A DELEGATE: The employment manager submits two or three names to the foreman, so that the foreman may have his choice?

A DELEGATE: I believe the foreman should know what he wants. He should say—"I want to fill this job." The job has a particular analysis, and might call for a boy or man to do a certain kind of lathe work, for example, that is the job. It is up to the employment manager to look over his blanks or school and see if there is any particular person who will fit into that job. Forget personalities. We are filling the job.

A DELEGATE: The foreman may have some prejudice against certain types of individuals, as you said.

A DELEGATE: I said yesterday that is a dangerous thing. Every man, even though he has two eyes and two hands, may not know how to use them. The ——— Manufacturing Company in their requisition for help have stated posture, weight, and everything else that goes with a certain job to be filled by a certain type of individual, because in certain jobs in our case certain heights are desirable.

A DELEGATE: This seems to go to the education of the foreman to rely on the employment department and educational department. As it is now, they evidently do not think much of these functions in the plant which refused to accept their aid.

A DELEGATE: The solution of this particular problem is one of very great importance. The discussion, which has been very interesting, shows two decided points of view. Just one word of warning, possibly, with regard to the point of view of an employment manager who shall have sole charge of all new employees. He sends his list out to the foreman, and the foreman, who has had no choice in the matter at all, is apt to say—"I have, therefore, no responsibility," and his function as a foreman, a director of men, a driver of men, where that is necessary, is entirely eliminated.

A DELEGATE: That a man ought to know the job and know the man to fill it is all right in theory, but it does not occur in practice. If you send the foreman a man he does not like, he finds a reason why the man cannot succeed and does not help him to succeed, and I suggested to the _____ Company that they do this in selecting men,—that in sizing up the men they utilize more than the judgment of the employment manager, that they utilize the judgments of the superintendents and foremen, and then if the superintendent gives a low grade to the boy in his estimate, never send such a boy to that department, but only send to that department the persons he approves of for that department. There, I think you have a double check, and if the foreman has already approved of the boy, he will use his good judgment in making the boy succeed. In the interest of the boy, I think the employment department should not be too independent.

A DELEGATE: That voices more accurately than I can state it, the viewpoint of certain employment men in relation to industry. I regret that Mr. _____ of the _____ Manufacturing Company is not here today to tell us his practice for seven years as employment manager. Although he is assistant secretary to the president, that has been his function, and he lays that down as a fundamental thing in that class of industries, that there shall be such a checking and counter-checking, and such a correlation in getting the men through the employment manager to the various divisions of service, through to the foremen.

THE CHAIRMAN: Is there any other discussion, gentlemen? Dr. Scott, will you supplement your remarks by using up the balance of the meeting?

A DELEGATE: I am always afraid of the judgment of any

one man on any other man, and as I understand it now the employment manager does not utilize the judgment of other members of the organization. In some cases they do, but I think that is quite unusual. The supplementing of the judgment of the employment manager by the judgment of the men under whom the new people will later be placed, does two things—it gives a crew to start with, and it creates a more fertile field in which they can work. Take a special case in a selling organization of which I have the data, a new system of selecting salesmen was tried out as an experiment—I had nothing to do with it, and the joke is not on me this time—and the district managers did not approve of it. When these young men were sent out as salesmen they were rapidly eliminated, and only one is left. That thing was tried twice. Unless the district managers put their stamp of approval on the salesmen they were going to see to it that the salesmen did not succeed, because they believed they alone had the power to select the salesmen.

The same kind of method was used in another case, but in addition to it, the district managers put their stamp of approval on the men before they were tried out. If they approved them in advance, then they had to see that the men made good, and they were having, in that instance, a very large proportion of successes. I am afraid if the methods used were quite independent of these district managers we would have double the number of failures in that case.

The point I want particularly to make is the small amount of confidence one person should put in the judgment of any other person, and the necessity of supplementing it by the judgment of other people, and by any other means we can get to come into play.

A DELEGATE: The system we have at the present time of selecting salesmen is this—we send the most competent men we can find to the colleges to get the students. After the students have been with us a certain length of time certain of them elect to go into the sales department. We have seven men to pass upon them before they can go into the school. Two of these men were suggested to me on account of their wonderful intuitive perception and the other five have various individual characteristics that would have a real bearing on the question, and it takes a majority vote for a man to get in.

There was a time when our district managers would not take the responsibility of selecting the men, and they were rather prone to criticise them after we had done the best we could. We invited them when they came to Pittsburgh, both the district managers and the divisional heads in the district offices, to take the students off individually and talk to them, and then to talk to me about them; to get my opinion, and talk to every man in the organization under whom they would work, and also get their record from the very beginning of their careers in the shops, in the offices, and in the sales school.

We have got to a point where I believed that the district managers are better satisfied with our judgment than with their own, and because it is not a one-man proposition, and not so much of a haphazard proposition as heretofore, we are getting a very much larger percentage of men who are really making good. Of course, you know that we are going a little further than that. Dr. Scott and some of his associates are going to apply psychological tests, and we are looking forward to that with a great deal of interest. Personally, I believe they are better able to tell us what a man is individually, than what he is fitted for.

THE CHAIRMAN: I will take a minute or two to say that we have no centralized employment department as yet. Our methods of selection are centered mainly upon the selection of our field men. Three years ago we put in a program to the effect that we would not have any part-time men, and we now only employ such men as will devote their entire time to selling life insurance. We aim to get men out of lines of business who have shown their capacity for success, and we put them through a strong process of selection at the home office.

Nine of us belong to a committee, including a representative from every officer of the company, and two or three others who may be specially qualified, and the prospective applicant is sent around, and we have test blanks and turn them in, and we have no hesitancy in saying to an applicant when he is turned down on what evidence we have reached that decision. We show him a composite blank containing the ratings of the nine men on twenty-one different points which enter into our calculations.

We have tried that system out for some time, and we find it certainly does do something compared with the former hap-

hazard method, which did not accomplish results. We are forced to rate each individual on certain specific qualities, and we are not influenced by some one or two dominant qualities, which do not tell the whole story, but often influence the decision.

The result is we are getting a rather high quality of men, and we are putting them out into the field and they are making a success of the work. We think ultimately we shall have some centralized employment department which will organize the machinery of employment and look after the various features of it, but that department will work with, and be supplemental to, the committee of nine to which I refer.

We all feel that we, ourselves, are greatly benefited by it, perhaps as much so as the man who finally survives the process of selection.

A DELEGATE: I will offer this as a suggestion of experience—that in the future our Round Table Conference arrange for findings that can be reported back to the Committee, that will be helpful to formulate conclusions of the Committee to be presented to the main conference.

The meeting then adjourned.

COMMITTEE ON SAFETY AND HEALTH

MR. SYDNEY W. ASHE, *Chairman*
GENERAL ELECTRIC COMPANY
Pittsfield, Mass.

MR. L. H. BURNETT
CARNEGIE STEEL COMPANY
Pittsburgh, Pa.

MR. ARTHUR T. MOREY
COMMONWEALTH STEEL COMPANY
St. Louis, Mo.

MR. J. C. ROBINSON
THE NEW YORK EDISON COMPANY
Irving Place and 15th Street, New York, N. Y.

MR. C. B. AUDEL
WESTINGHOUSE ELECTRIC AND
MANUFACTURING CO.
East Pittsburgh, Pa.

THURSDAY—AFTERNOON SESSION.

SAFETY AND HEALTH.

THURSDAY AFTERNOON—JUNE 1ST, 1916.

VICE-PRESIDENT HERBERT J. TILY, *Presiding*.

THE CHAIRMAN: In the absence of Mr. Sydney W. Ashe, Chairman of the Committee on Safety and Health, the report of that Committee is to be presented by Mr. C. B. Auel of the Westinghouse Electric and Manufacturing Company, whom I have great pleasure in presenting to you.

MR. C. B. AUDEL: This report is in the nature of a supplement to the previous reports made by this Committee, and my own personal feelings are that the fundamentals of the previous reports should have been reincorporated here so as to avoid the necessity of looking backward on the part of those who have more recently joined the Association, but I was, apparently, overruled in regard to that point.

REPORT OF COMMITTEE ON SAFETY AND HEALTH

INTRODUCTION.

Fellowship, System, Education and Discipline are the four necessary elements in Safety and Health work. In carrying on any educational course on Safety and Health, these elements must be considered separately and individually, as each element has a direct bearing on the ultimate desired result, namely, to decrease accidents, to improve conditions of health in industry and to increase efficiency through educational means. Before outlining a suitable educational course in Safety and Health, it is first necessary to study and systematize the accident data of any particular company. This data, when systematized, will not only be suggestive in laying out an educational scheme, but will also be useful in later years for comparative purposes. Educational work, to be properly received and appreciated and to have the right kind of co-operation given, must also have a proper spirit of Fellowship existing in the company. While educational safety work may do much to stimulate Fellowship where it exists to a moderate degree, still, if it has previously been stimulated by other methods, it will help greatly in obtaining the proper response to safety work. Having established an educational course in Safety and Health, the work should be carried on systematically as part of the company's regular educational work, centralized under the supervision of some specific department, such as the Welfare, Educational or Safety Department, similar to the practice now followed in industry with Apprentice Courses, Special Apprentice Courses and Sales Training Courses. In other words, a definite schedule should exist and be adhered to. When the educational work has been in force for a time and everyone has become interested and instructed in Safety first methods, if it is found that employees are habitually careless, for their own good they should be encouraged to seek other forms

of employment less hazardous. Discipline, however, should not be exercised until all other means have failed, and even then due allowance should be made for unusual conditions, such as the newness of an employe, unfamiliarity with rules, regulations and operations, troubles at home, sickness, unusually severe weather conditions and other unusual factors which might be responsible for lack of alertness. Usually it will be found that an occasional request for greater co-operation in Safety work or increased caution coming from the Management will accomplish the desired result.

FELLOWSHIP.

In many large corporations we find the element of Fellowship highly developed. There is a close relation of the words "Cooperation" and "Corporation." One is defined as the act of operating jointly with another to the same end. Corporation is defined as a body politic, organized to operate as a single person. Andrew Carnegie in the early days of steel-making, tied a broom-stick to the smoke stack of the rolling mill that had the greatest monthly output. It worked wonders as a stimulus to human endeavor. Carnegie understood human nature,—the ability of people to work together, to pull together under the proper stimulus of Fellowship due to sympathetic and just leadership. The greatest progress in Safety work will be found in those places where systematic educational Safety work is carried on, where the right spirit of Fellowship exists and where the Manager and the workmen at the bench feel that they are fellow-employees. There must be respect for superiors and discipline, but at the same time there should be that friendly confidence or mutuality of interests based on Kelvin's law of Economic Balance. In designing a transmission line the most economic condition is that in which the interest on the capital invested is equal to the cost of energy dissipated. This is known as Kelvin's law. It applies to human endeavor as well as to engineering. The most efficient work in Safety and Health is that in which the employer and employe are mutually interested. The Manager, through the resources of his company and through his position is able to extend to the employes many perquisites which an employe, working as a single individual, could not benefit by, but which the company can extend at small expense. The company's

facilities for organization, Accounting, Purchasing, Publicity, Education, etc., can be placed at the disposal of employes through their Welfare Department, or employes' Clubs, to help any activity which may be started for the benefit of the employee. This is the method which many companies use to stimulate Fellowship. For instance, the New York Edison Company has an Employes' Association, maintains Sick Benefits, Group Insurance, Service Annuities, Saving and Loan Associations, Educational Work, Compensation for Injury, Company Restaurants, Safety Committees, etc. Many other companies carry on similar activities. All of these activities, however, should be founded on sound economic principles, and while many times it takes time to get the activities in this condition, they never become permanent activities until this stage has been reached.

SYSTEM.

It is important, as previously stated in Safety work, that a definite plan should be followed in maintaining Safety Educational work. In starting such work it is well to secure someone, experienced in teaching, who can devote a reasonable amount of time to this work. This individual should make a study of safety devices, first aid work, prone pressure method of resuscitation, tuberculosis, sanitary conditions, and should be able to systematize and classify all accidents which occur, with their causes. From this data it will be found that certain large groups of certain classes of accidents exist and these particular groups are the ones upon which concentrated effort should be made. It will be found in manufacturing, for instance, that eye cases, strains and ruptures, foot burns in the Foundry, falls and other injury to repairmen or men engaged in construction work, form the most prevalent sources of accidents.

EDUCATION.

In a paper presented by your committee on Safety and Health at the third annual convention at Worcester, was outlined the various educational methods used for Safety work, such as bulletin boards, Works' papers, rule books, lectures, etc. In addition to this, a discussion was given of organization, first aid

and Emergency Hospitals, the importance of foremen in Safety work, competition among the departments, bonus system and the splendid work which is being carried on by the National Safety Council. In a paper entitled "The Application of Educational Methods to the Reduction of Accidents," by Sydney Whitmore Ashe, presented at your second annual convention at Philadelphia, was outlined a complete educational scheme for Safety which had been organized at the Pittsfield Works of the General Electric Company and which has brought about very successful results. It is suggested that in using the present report of your committee as a basis for organizing a Safety Educational Department, these two papers be carefully read and studied. Assuming that a suitable instructor has been found to carry on the Safety Educational work, and that this instructor has studied the accident conditions at the local plant and has become familiar with the Safety literature issued by the National Safety Council, The American Museum of Safty, The Travelers' Insurance Company, The Ætna Insurance Company, and many of our large manufacturing or operating companies, such as the Norton Grinding Wheel Company, United States Steel Corporation, Carnegie Steel Company, General Electric Company, Commonwealth Edison Company of Chicago, Commonwealth Steel Company, Westinghouse Electric & Manufacturing Company, The Great Northern Railroad, Santa Fe System, Brooklyn Rapid Transit Company, and many other companies that could be mentioned, that have made splendid progress in Safety Educational work, it becomes the duty of this instructor to outline some definite course to follow. It is suggested that this course be not too extensive, a series of lectures like the following being ample:

1. The Principal Types of Accidents occurring in the Local Plant—their causes and remedies.
2. First Aid to the Injured, including the use of the First Aid Kit and the making of Tourniquets.
3. The Prone Pressure Method of Resuscitation, with demonstrations.
4. Tuberculosis.

5. Fire Hazards.

6. Methods of reporting Accidents and the use of Standard Safety Devices.

These lectures should first be given to a selected group of men, consisting of foremen, assistant foremen and gang bosses, including every department in the organization, with the exception, possibly, of the Office force. Everyone should be given an opportunity to demonstrate and the lectures should be repeated at monthly intervals until this entire group of men has been thoroughly trained. For an organization employing 5,000 people, 200 "First-Aid Minute Men" are none too many. These lectures should be supplemented by a Works' paper published at monthly intervals, going to all the employees in the organization, distributed free. In this paper, the material which is presented in the lectures should be worked up with illustrations for the benefit of every employe in the organization. If the publication is well illustrated, and contains, in addition to Safety material, matters of general interest, including personal achievements, historical sketches, useful tables, etc., it will be found that great interest will be aroused on the part of the employees in Safety Work. This paper should be edited by the same individual who gives the lectures, so that the general educational work will bear a direct relation to the specific lectures given. In distributing this paper, it is well to have it appear on a definite day each month, such as the first of the month, the circulation taking place at certain specific centers. Some idea of the interest which may be aroused in such a paper can be gained when it is stated that one company has distributed 5,000 copies of such a sheet each month for the past three years and only about ten loose copies have been found during this time about the streets or about the Works after the distributions have been made. This paper is distributed in such a way that the copies are taken home, where they are read by the other members of the family. The third phase of the educational work, which is also important, is to include the public in the Safety work which is carried on. This can readily be accomplished by giving first aid lectures, throughout the school system, to Boy Scout Groups, to the Y. M. C. A., to churches and wherever an opportunity occurs, for it must be realized that if we

can get the teachers, the pupils and the mothers interested in Safety and Health work, we can stimulate habits which in later years will be conducive to good results. Each one of these lectures can be made the occasion of writing an extended article on the subject which will appear in the local newspapers, where it can be read by the employees in the organization. In other words, by working around a circle, we can keep changing the point of contact of presenting Safety material to our employees. In addition to the educational work so far outlined, it is desirable, four or five times during the winter, to hire some public hall and give general lectures on Safety to the rank and file of the organization. It is not necessary in these lectures to go to the expense of having individual demonstrations made the same as with the "Minute Men," but these lectures should be illustrated with moving-pictures, lantern slides, and should include talks by the Safety engineers and some of the Management, so as to arouse a proper Safety spirit among the employees. The personal touch is a very important matter in successful Safety Educational Work.

DISCIPLINE.

Due to the fact that labor in organizations is continually changing, it becomes necessary to repeat Safety Educational Work quite frequently. At the present time, one of the most difficult things is to train in a short interval a new employe in the same habits of caution that have been developed in an older employe through several years of contact. In fact, this constant shifting of labor is the most serious factor with which Safety engineers have to contend. It becomes necessary, therefore, at times, with a new employe, to use greater pressure to get him in line with old-established practices, such, for instance, as the wearing of goggles. Foremen are the proper centers to work through in administering discipline to employes who will not heed Safety suggestions, and while the greatest patience should be exercised to get new employes in line, there are times when all sorts of persuasion fail, where the men are habitually careless and where rigid discipline is the only remaining hope.

SUPPLEMENTARY STATEMENT.

AS TO THE GREAT ADVANTAGE OF VOCATIONAL TRAINING AS APPLIED TO THE LABORING CLASS.

BY J. C. ROBINSON—OF THE COMMITTEE.

Probably at no period in the history of the nation's industries have the relations between capital and labor been on as satisfactory a basis as they are to-day. At no time have the endeavors of the employer, to reach an equitable understanding with the employe, been fraught with such stimulative encouragement.

Legislative enactments are doing much toward adjusting many of the controversies causing friction between these two great factors of industry. The working-day is fast being standardized—the non-employment question is being accorded much time and consideration—compensation laws are in force in most of our states, and industry generally is awakening to the tremendous cost of trade accidents, in consequence of which the most strenuous efforts are being made to protect the working-man and to minimize the hazards of employment. As a matter of fact, mechanical protection is almost obligatory in the states having compensation laws.

These additional burdens, involving large expenditures of money, have been cheerfully borne by the industries in behalf of the employe, not alone that such monetary outlays were commendable from an ethical standpoint, but viewed financially they were accepted as economically and commercially sound as well.

Present conditions, however, improved as they may be, are still far from ideal, and a more comprehensive understanding between employer and employe is greatly to be desired, and it is with the idea of being helpful and bringing about this closer relationship that this paper is written, and I most earnestly solicit the cooperation and assistance of our membership in this work, for it is only by united effort that we can hope to produce any telling result.

Theories as to the various methods of bringing about this better feeling between the financial and producing ends of industry are useful beyond a doubt, but there is a constant reach-

ing out for something which has been reduced to a practical basis, something dependable, upon which one may work with a surety of result and which can be recommended as a guidance for raising the standard of employment, and that is not forgotten as soon as heard but is carried away as a live and sentient proposition.

There is a law of compensation—of equalization—observable in every phase of life, either commercial or social, but it is very evident that that economic balance between capital and labor, so necessary to the establishment of durable peace, and contentment in the industrial world, has not been arrived at.

Capital, never backward in solving its financial problems, has handled its productive and commercial equations with equal facility; but capital has been timid and at a loss to know how to handle this new equation which is rapidly forcing itself into a place of paramount importance and is fast being recognized as one of the greatest components of industry.

I refer to the personal equation which is designated as a *new* force or dimension in industry, for it has been largely disregarded in the past and thrust aside whenever it attempted to assert its influence, disguised in any of the numerous forms in which it could manifest itself, yet this same personal equation, so obscured in the past, is to-day considered an element of the utmost importance in business, considered either psychologically, financially, or commercially. Most business is now conducted on such a gigantic scale that the individual is lost sight of and is considered as only a unit of a vast aggregation, but this is wrong in principle and is not productive of good results.

Every human being is endowed with an individuality of which he is supremely jealous. This is one of the fundamental principles of our very existence, and an inherent attribute of this egotism is a spirit of contradiction toward any innovation which tends to upset or in any way interfere with the regular routine of daily life, or which obstructs that path of least resistance which is so tenaciously adhered to, though such an innovation be solely for one's benefit.

This attitude undoubtedly produces in the mind of the employe many times a feeling of antagonism for such innovation as does not directly appeal to him as being obviously for his own good or advancement, and in no phase of life does this

attribute enter so strongly as it does in the attempt to arouse in the mind of the working man a realization of the need of his cooperation and assistance in whatever is undertaken for the mutual advantage of both himself and his employer. It is difficult many times to make him see that his interest and his employer's are one and the same; and must work in cooperative relationship if success is to be obtained. Therefore, the personal equation demands a departure from past methods and the recognition of the individual.

The average workingman is somewhat devoid of philosophic humor; that humor which permits of self-criticism and a comprehensive understanding of that position in life in which he finds himself. It is not my wish to do the workingman any injustice, for his sense of right and wrong is just as acute as our own, and he has the same faculties as the employer and, aided by the proper teaching and guidance, he will use those faculties in the interest of those who have raised him to a higher standard, and both employer and employe will benefit and a state of confidence exist which will go far toward producing that mutuality of interest which means harmony and contentment in every sense of the word.

It is impracticable to outline any specific course of vocational training that will meet the individual needs of our membership. Each employer must study his own requirements and adopt such educational activities as are demonstrated by experience to be most effective in producing the desired result, but I most strongly urge upon you the vital importance of such vocational activity if the commercial end of your business is to be maintained on an efficient basis. The employer must no longer be content to stand aside and be considered as something in the abstract, and which is non-approachable, for he is the logical one for those under him to turn to for counsel and guidance, and he should not shirk the responsibility, for, in so doing, he is not only false to himself but fails in his duty to those whom he employs. Dr. Steinmetz wisely cautions us in this, however, when he says:

"The human activities of the corporation are cooperative with its employes, and the favorable attitude and viewpoint of the employes thus is essential for their success. Herein lies the cause of many of the failures. It is not sufficient for the corporation to undertake such educational, welfare and other activ-

ities, as are in the opinion of the corporation managers for the best interest of the employes, but the corporation actions must be such that the employes and their organizations take the same viewpoint, otherwise welfare work may be resented as charity, educational work opposed by the suspicion of an ulterior motive hostile to the employe's interest, as an attempt of breaking down their organization, and safety regulation as an attempt to evade responsibility, etc."

We all appreciate that any business must be conducted on principles economically and commercially sound in its every department. This is an inexorable law of industry that can in no wise be deviated from; therefore, it is illogical to expect capital to do anything that is fundamentally unsound and not in accord with correct business principles.

The public generally fails to see this in its proper light, and is prone to regard anything attempted by capital as being the result of greed and avarice, and it is ever ready to buckle on its sword in defense of the workingman and what it considers his wrongs. This same public has considerable ability for stirring up strife and discord, but it is woefully lacking in rendering aid, in solving the intricate problems of industry.

If the public has this conception of the honesty of purpose of large business, is it not fair to presume that one so vitally interested as the employe may be imbued with similar thoughts. Here then is the crying need for vocational training and guidance in its every branch.

It is little short of amazing, with the present light before us, with the ideas which we are gradually absorbing from our great association, how this has been disregarded in the past, for the employer, with all that he has done in behalf of the employe, despite his splendid endeavors, and the financial burdens which he has assumed, has withal failed to see this proposition in its right proportion, and has been lax in his duty, both to himself and those whom he employs, in not training and directing the mind of the employe in the right channels.

The employe does not desire paternalism and is willing to give full value for what he receives, while on the other hand every fair-minded employer is anxious to aid and encourage those under him in every feasible way, and all that he asks or expects in return is loyal service; but at the crucial moment he

fails to extend himself and make all this plain to his employes. He lacks the appreciation of the absolute need of training the employe by educational development to see his endeavors in their right proportions.

How splendidly this thought is illustrated in our compensation laws! The burden of injuries sustained during employment is borne jointly by the industry and the employe—and is this not right?

Let us consider for a moment and ascertain if the basic principles of such laws are not obviously sound.

The public demands certain things—it must have the best; take the electric light for instance. The public is no longer satisfied with the candle or lamp; it knows of a better light and demands it, and to meet this demand, human beings must be employed, and while the most strenuous endeavors have been made to safeguard the workingman during such employment, and to minimize the hazards of his labors, somewhere between the taking in of the coal and the turning out of the finished product ready for use, someone is bound to err and accidents will happen. Is it not, therefore, logical that the workman and the industry, which eventually means the public, should share the burden of such accidents? I take it that this is generally conceded by the employer to be fair and reasonable; but does the employe see it in this light? Efforts should be made to so educate and train his mind that he will recognize the correctness of the principle involved and assume his share of the burden as uncomplainingly as the employer, for unless he does observe the equitableness of the law and willingly lends his cooperation and aid in every way possible, at that moment is the proposition robbed of its fundamental worth and stability, and instead of fulfilling its purpose of creating harmony and contentment, it only leads to friction and discontent.

As previously stated, compensation laws have made mechanical protection almost obligatory in many of our states, but, such protection is preventive of only a comparatively small proportion of our industrial accidents, while a decidedly large proportion is due to the employes' carelessness or negligence, and this weakness can only be overcome by patient and systematic mental training. A dumb mechanical device conveys but little to the workingman for whose protection such a device is necessary. In many cases

it only irritates and antagonizes him ; until it is made plain to him that such protection is not intended for him when conditions are normal and when he is mentally alert and physically active ; but the time may come, when, in the rush of work, his attention is diverted for a moment, or he may be taken suddenly ill, be pushed against moving machinery or into a dangerous position by a fellow employe, that then the safety device arises to the occasion and protects him from injury or possibly death.

The greatest protective device in existence is the working-man's own brain, but the extent to which he will make use of this function depends largely upon his training and guidance during his employment.

When you have trained your employe to see and appreciate the real worth of your protective endeavors much has been done toward accident prevention, and, when this understanding has been thoroughly inculcated in his mind he soon begins to dispense his knowledge and learning to his associates, and the effect thereof is felt throughout the plant. Don't forget that a little leaven leaveneth the whole loaf.

In so training the employe, his mental capacity generally is improved and his power to think and do increases, thus enhancing his general efficiency. Now let us consider for a moment the subject of the health of employes in connection with vocational training. What occurs in the case of a prolonged illness? The employe may not be so situated or provident enough to lay aside a sum adequate for such an emergency, and certainly he should not look to his employer to provide for him during such disability. This would seem, at first glance, unreasonable, but is there not a sound economic principle here involved? Every broad-minded employer will, undoubtedly, concede that the absence of a capable employe means a certain decrease in productive efficiency, small no doubt, but existing nevertheless, and unless carefully watched, it may develop into a factor of magnitude. Therefore, is it not reasonable, and to the mutual advantage of both employer and employe that this burden of sickness during employment be jointly shared? This is now provided for in many cases by means of mutual benefit associations, but the greatest care should be exercised in seeing that the employe clearly understands and appreciates the conditions under which the assistance of his employer is accorded him. His mind should be so guided

and trained that he will see this and all other company endeavors in their right proportions. No attempt should be made to withhold from the employe that there are certain advantages accruing to the company as well as employe in all such aid. It should constantly be kept before his mind that all such help, to be at all successful, must operate to the mutual advantage of both employer and employe.

Let us further consider the great importance of health in connection with business. The condition of the body very largely determines one's mental as well as physical worth. Consequently one's own welfare depends to a very considerable extent upon his holding correct ideas as to the preservation of his health, for a sound body is one of man's most valuable assets throughout his career and every employer should make the preservation of his employes' health one of his first considerations. This does not necessitate an elaborate system of medical supervision if one is not so disposed, but an endless amount of good can be done by vocational training, which, if systematically persisted in, would undoubtedly do much toward educating the workingman up to the correct principles of health maintenance.

Recently there was a meeting of physicians engaged in industrial practice held in New York City. There were twenty-one doctors attending the conference and, among other things discussed, the matter of the care of the teeth as a necessity for the maintenance of good health was brought out by several doctors. It was stated that decayed teeth are one of the greatest sources of rheumatism and are contributing factors in many accidents caused by vertigo from indigestion and general disability. It was stated that persons having decayed teeth recover more slowly from an injury than persons with sound teeth. Two of the doctors present at the conference outlined the efforts of their respective corporations in the examination of the teeth of their employes and one doctor stated that, out of 13,000 employes so examined, only 122 were found to have healthy mouths. Certainly a most persuasive argument as to the desirability of giving this matter careful attention. I can hardly recommend the engaging of a dentist to care for the teeth of employes, but surely a tremendous amount of good would be accomplished by considering this subject in our vocational curriculum.

Vocational training seems to have been considered in the past

more in connection with what we might term the clerical force, but it is obvious that it is equally applicable to the laboring class and a great amount of good can be accomplished by extending the same systematic training to the employe whose rate of wage is fixed by the hour.

The idea of vocational education in this connection may possibly savor of socialism, but such is not the case, for it is based on sound economic principles and will prove a profitable investment for any large employer of labor.

In the centralizing of business, in the establishing of large plants employing thousands of workmen, the employer has, to a great extent, lost his conception of the proper relationship of capital and labor and has paid but little attention to the human element as related to his scheme in producing results.

Every machine, except the human machine—if we may use the term—has been improved and rendered more efficient. The mechanical end of business has been watched with untiring energy, but the human element has been left to work out its own salvation, and the only attempts to protect it or improve its efficiency in the past, have been largely along indefinite and uncertain lines.

The fallacy of this antiquated policy is becoming more apparent every day as capital is forced to concede the vital importance of this great industrial factor—"personal equation," but, as stated before, capital has been somewhat puzzled to know just how to cope with the proposition and it is constantly looking for something new and dependable which may be recommended as a guidance in the endeavor to equitably adjust its demands, and to what better medium can it turn to for aid than to our Association. The rapid growth of The National Association of Corporation Schools has demonstrated the need of just such an association, and we should make every endeavor to be of the greatest assistance in this line of work.

THE CHAIRMAN: I do not wish to assume to give any direction to the discussion, but I would like to say a word on behalf of the Executive Committee in connection with this very subject. It was felt by some of the members of this Committee on Safety and Health when they first reported back to the Executive Committee that they were somewhat limited in the field which they might cover, and it was felt that practically everything had been said which could be said in connection with educational work with regard to teaching safety and health. The Committee asked that they be permitted to publish a rather elaborate treatise on the whole subject, which was to be illustrated at considerable expense. The Association could not undertake the expense, and then the suggestion was made it could be undertaken by some publisher, that the report which the committee would prepare would be put in good form, properly illustrated, and could be sold. It was felt that this was not in line with the work which the Association was aiming to do, and the Committee was requested to confine their report entirely to suggestions as to how safety and health in business could be achieved, and was being achieved, in the industries represented here, by means of education.

Now, I have heard presented during this convention from time to time, both on the floor of the convention and in private conversation with some of you, this rather definite criticism—we come here for something specific which we can take home. We wish to know just what the other fellow is doing, just how he has solved the problems which concern us in our work. In our organization we are obliged to give some direction to the work done by these various committees, and it is in my mind now that for next year in connection with the reports of the various committees there should not only be discussion, but that there should be a period when general discussions end, and when the Executive Committee for the next year is given some hint as to what the Association expects in connection with the work of similar committees reporting later on.

I believe that you can this afternoon give the Executive Committee some valuable hints as to whether or not there is a work to be done by a Committee on Safety and Health next year which will more nearly approximate that which you wish, which will bring you next year something more definite, or whether or not the Committee on Safety and Health should be continued.

In talking with one member of this Committee he suggested that he thought the work of the Committee was done and that the Committee might, with profit to the organization, be abandoned, and that we might turn the time to more profitable account if we spent it on some other subject. I repeat, I do not wish to assume to give any direction to the discussion, but would appreciate, as a present member of the Executive Committee, and I hope as a prospective member of the Executive Committee next year, if we may have from you, in addition to a discussion of the Committee's report, some suggestion as to the lines along which you would wish a committee to work, so that the report which reaches you next year may give you what you wish to have.

When I last had the pleasure of presiding at your meeting, day before yesterday, I requested, at the suggestion of our stenographer, that those who take part in the discussion give your names and the companies with which you are identified. You may think you are very well known, many of you are, but we would all like to hear your names and the company that you represent, because while you are speaking we wish to know something as to the standpoint from which you speak. I made this little psychological discovery in connection with a man's name. We have had a great deal of difficulty in understanding for years why it was that everything else on a sales check would be written plainly with the exception of the customer's name, and we discovered it was due to the fact that every person is more or less sensitive in pronouncing his own name. I selected some twenty or thirty persons together in a test, like Dr. Scott would do, and asked them very rapidly: "What is your name?" They mumbled John Jackson, Jim Smith, John Jones, or if it happened to be a name of foreign origin, they would give it the foreign pronunciation, the pronunciation which was right and which they knew was right. I asked them my name, and they would repeat it distinctly. There does exist this disinclination to pronounce our own names distinctly, and if you have that in mind when you rise, do not be ashamed to pronounce clearly and distinctly either your own name or the name of the company you represent, and if you bear in mind the fact that you do not have to be ashamed of them we will get them distinctly pronounced.

I shall not assume this time to call on anybody in particular, but I ask for as general a discussion of this paper as it is possible to have in the time at our command. In the absence of the green and red lights, I shall rap twice on the table, when your time is expiring—you will have two minutes after the two raps.

MR. PAUL KREUZPOINTNER: The remark has been made that the purpose of these meetings is chiefly for getting definite information which can be taken home and applied immediately for practical purposes. Frequently this cannot be done. For instance, along lines of safety training it is psychological attitude which is needed most, and this to develop requires a long time in training of careful habits. To train in habits requires patience and long years of practice.

Due to our nervous temperament and the wealth of our resources which have been at our disposal, creating the impression as if they were inexhaustible, our careless attitude has become a national habit, and to get over these careless habits we have to apply the slow method of education and training. In going to my office, for thirty-three years I passed a given mail-box and frequently and quite regularly I put in letters and papers which had been carelessly placed in the box only part way. Only a month ago a three days' safety meeting was held in Altoona by the Department of Labor of the state and after one of the lectures two boys jumped on a fast-going wagon. One of them fell off and was hurt. On being asked where they came from they said: "Oh, we just come from the safety lecture!"

This indicates the educational problem before us in this matter. Manufacturers and business men can assist in these efforts in training for careful habits by insisting upon care, cleanliness and order at their places of business, the removal or orderly storing of scrap of all kinds and tidiness generally. Such persistent insistence of orderliness and systematic care does more to train in habits of care than any amount of preaching.

The second part of the report deals with the subject of health. It appears to me that the young people, as I knew them forty and fifty years ago in shop and school, were less nervous and possessed more power of endurance than have the young people of today. The ever growing speed and tension of life, lack of wholesome outdoor play and recreation, extreme specialization and standardization with its mentally atrophying influences have

all reacted unfavorably upon the nervous system during the past generation.

Here again we have to find ways and means how to counteract these influences and improve the health and strength and mental and physical endurance of our young people. Cleanliness of streets, alleys and yards, of public buildings, city planning and beautifying of streets and yards react favorably upon mind and body. Keeping mills and shops clean and orderly with here and there a grass plot, vines on the building and similar improvements, leave unconscious impressions upon the mind of restfulness and joy with favorable reaction upon the body.

During the past thirty years a constant stream of foreign engineers has passed through this country and I have met hundreds of them. I have taken scores of them through the Altoona railroad shops and made it a point to ask them of their judgment as to the economic value; that is, the earning power of the men and output of work and quality of work done, of the appointments and surroundings of the Juniata shops. At the Juniata shops new locomotives are built, the shops are light and airy, sanitary conditions are excellent, the yard is largely a meadow with a fine view upon the Alleghenies. No one of these engineers valued the economic influence of these surroundings at less than 5 per cent, some as high as 10 and 12 per cent.

Here we have a pointer concerning the suggestions made in this excellent report.

MR. F. O. CLEMENTS (The National Cash Register Company): I come from the city where this Association had its birth, Dayton, Ohio, and I have attended every convention since. I am interested in the progress and growth of this Association. I think the founders of this Association have cause to be proud of its present strength and influence. We had an outline yesterday regarding employment plans used throughout the country by the larger institutions, and last year the Health and Safety Committee presented a fine outline of health and safety work, with concrete examples of the way to introduce it into a plant and obtain good results. We have had safety work in our institution—The National Cash Register Company—for a great many years, but only within the past two years has it been of the organized variety with committees of shop men in each and every department. When we talked about safety work our pres-

ident, Mr. Patterson, wrote on the blackboard "Health and Safety," and drawing a circle around them, stated that it was impossible to divorce the two. He was without doubt right. The present report which we are called upon to discuss deals with safety more than health. I am certain that the question of health education along the right line has hardly been touched on in industry, and it would be a big mistake if the work of this committee were to be discontinued. I am sure they have a task ahead, a stupendous task.

I asked one of the big manufacturers of Dayton what he valued most in his employees, and he told me enthusiasm, and he further mentioned the fact that he ordered about twice as much material by telegraph and had it come in by express as was necessary, just to keep up that enthusiasm and keep his men on their toes, active and aggressive. It is a big problem in health and safety work to keep the programs going along nicely, so that the men do not lose their enthusiasm.

You must not be unmindful of the fact that you have had a 25 or 30 per cent. increase in membership this year, so that you have a lot of new blood coming into this Association. Since the Association is increasing in growth so rapidly, it is necessary to have a Committee on Safety and Health, to give these new members the necessary information and furnish the continual enthusiasm mentioned heretofore.

THE CHAIRMAN: Your specific suggestion is that more attention be given to the health side?

MR. F. O. CLEMENTS: Yes, more than the safety side. My experience tells me it is of much greater importance. It might be a good thing to have some of the companies give actual demonstrations by moving pictures or lantern slides as to how they instruct the employees with regard to safety and health. Concrete illustration "Teaching through the eye" would help all of us and liven up the program of this meeting.

MR. M. J. JONES (The Sherwin-Williams Company): I am glad to endorse the remarks of Mr. Clements, and in this report I notice on page 15 an allusion to an aspect of the health problem which has had, I dare say, relatively little attention in your previous meetings.

I am not familiar with the transactions and have not read the reports of the last three years, but am only assuming that

it is true that the item of the care of the teeth, as a necessity for the maintenance of good health, has not had any very great amount of attention in your study of the problem of health maintenance. Am I right?

THE CHAIRMAN: No particular study. I have never been on the Committee. I have all I can do to take care of my own health.

MR. M. J. JONES: Some remarkable facts have been cited here this afternoon. It has been my privilege to be associated with a national organization for the past two years which has been gathering the facts and emphasizing the importance of these facts in the field of mouth hygiene. In this report of our Committee on Safety and Health, you will observe that a quotation is made from two physicians at the conference held in the city of New York (this appears at the bottom of page 714) wherein these physicians outline the efforts of their respective corporations to make adequate examination of the mouths and teeth of their employees. One doctor states that out of 13,000 mouths examined, only 122 were found to be healthy. I dare say that such a condition of things would be challenged at first glance by this body, but I happen to know that the facts are as stated. I have been familiar with certain examinations as they have been carried on by one of our large corporations in the city of Akron, where they have 15,000 employees and where their labor turnover for the maintenance of that staff last year was reported to be 28,000 and where they found, following the installation of their department of safety and hygiene, that the number of physical defects among their workers in various departments was astonishingly large. They found, for instance, that 14 per cent of their employees had hernia and also other physical defects equally important and perilous to industrial workers. Examinations made by their surgeon and nurses of the condition of the mouths and teeth of their employees led them to adopt the policy of establishing a full-fledged dental clinic, with one of the best practitioners in the city of Akron as head of their staff. A year ago in March they began to examine the mouths and teeth of all their employees with a view of advising constructively with regard to bettering any diseased conditions which might be found there. I was a visitor at the plant one day when a dental surgeon had put through 130 employees during the day, and the report

was that all but three exhibited some defect of the mouth and teeth. The next day ninety employees went through the dentist's chair and only two came out with a perfect score. These conditions of course were remediable at the hands of a dentist and many of the defects were corrected. Yet the report is a striking confirmation of the facts cited in the New York Conference.

I want to say further that this large percentage of defects of the mouths and teeth is not only in the industrial world, but is found among the school pupils of our public schools. In Cleveland, five years ago, experiments were conducted by dentists, teachers and psychologists in the Marion public school. Previous to the experiment, dentists of the city completed examination of 20,000 school children, which revealed defective teeth to a greater or less extent in from 90 to 97 per cent. The Marion school experiment was carried through for one year with a class of twenty-seven children, who were given careful attention as to their mouths and teeth and who followed a course of diet, mastication and general hygienic living during the year. The mental efficiency of the class by tests of teachers, psychologists and physicians showed an average increase during the year of nearly 100 per cent. The report of this experiment has been printed and may be obtained from the Board of Education in the Cleveland Public Schools.

The practical thing, Mr. Chairman, which confronts you and me in the matter of health education, particularly education in oral hygiene, is: how we may instruct these people about the care and use of the mouth. There are facilities in the form of stereopticon slides, motion pictures and valuable printed booklets which will aid in giving instruction of the right kind. I shall be glad to give you further information as to these facilities if you are interested.

The fact that the Goodrich Company has installed a four-chair dental clinic, that the Joseph & Feiss Company of Cleveland and a number of other concerns have dentists on their staff in the health supervision department, that a great company like Montgomery-Ward has installed as a part of their health work in Chicago, Kansas City and New York the services of competent dentists, who are giving a large part of their time in connection with examination of their mouths and the correction of defects—all indicate the trend of things in this important matter of oral

hygiene. I presume a number of concerns represented here have had similar experiences and their testimony would show the importance of underscoring this phase of a new health education program in industry.

THE CHAIRMAN: We found our dentist saved our employees a great many tears, dried a great many tears, and kept a good many of our people at work who might otherwise have gone home for a day, by taking care of some little minor ailment which gave some of the younger people, particularly, pain.

MR. L. B. ATHERTON: I want to add this concrete statement to bear out what Mr. Jones said. In the hiring of young boys, we have pretty rigid physical examinations, and about one boy out of every seven, at the age of sixteen years, has a poor heart. That poor heart very often is directly traceable to poor teeth and bad tonsils. We have in our office now five boys who have been hired with a little something wrong with their heart, coming from those causes.

We had occasion this spring to organize an athletic club. We examined 110 men, from 18 to 35 years of age, now working in our office or in our plant. I do not feel at liberty to give exact figures, but it is absolutely astounding the number of those men whose hearts were impaired, as far as putting a heavy strain on that organ is concerned.

I agree with Mr. Jones that I would be sorry to see this Committee on Safety and Health done away with—and I do not think of one point we can emphasize that is of greater value than this point of oral hygiene, and, taking it a little further down, to include the throat and especially the tonsils.

MR. NORMAN COLLYER: I have spoken to a number of the delegates, and also to a number of the members of the Committees, commenting upon the very practical and useful form in which the Committee reports have been submitted this year. The syllabus form has been largely used, which is the form in which a busy man desires things to be put before him and the form in which he can assimilate the thought in the briefest possible time.

I find this report to be a document consisting of two parts. The first part is the report of the Committee proper, consisting of eight pages, and this is followed by a supplementary statement by Mr. J. C. Robinson, for which the Committee does

not apparently wish to assume responsibility. The supplementary statement is entitled, "As to the Great Advantage of Vocational Training as Applied to the Laboring Class." It contains in its 3,000-odd words of matter almost nothing that pertains to the Committee's work, except on page 714, where some statements are made with reference to health, and particularly with reference to the care of the teeth.

My criticism of this report is based largely on the supplementary statement. We do not have supplementary statements to the other reports. Why do we have it here? Are the reports of the Committees to be considered a medium for the expression of the personal opinions of the individual members of the Committees? There should be some better medium for their expression than that. The Association publishes a Monthly Bulletin in which such articles could appear if, in the judgment of the editorial staff, they were desirable matter for publication.

The report proper of the Committee appears to be padded. These things are set forth in an expansive way, as if to take up space. I will venture to say that its eight pages could have been condensed to two pages of printed matter, if presented in syllabus form. It may be that the Committee has reacted unfavorably to the instructions of the Executive Committee.

It would be my judgment that this Committee should be continued, if there is to be any further study and investigation of the subject of safety and health, but that the Committee on Safety and Health should not expect to publish each year a treatise on the subject, but rather to add to their reports of previous years, so that the series of their reports may form an accumulation of data and knowledge on the subject in the same manner as the proceedings of the engineering societies form an accumulation of knowledge on any given subject which must be referred to as a whole, and not with respect to any particular part.

MR. R. M. NEUSTADT (The B. F. Goodrich Company): I would like to ask the Committee to work on two particular phases of the subject not touched on, so far as I know. One subject is the question of safety and its relationship to the general lack of education. This involves not only the foreigners and their lack of knowledge of the English language, but also our ignorant Americans who have never received an adequate educational background. There is a great problem of the relationship between

general educational work and accident prevention, and I think it would be well for the committee to take it up.

On the side of health our company has gone far beyond the original plan of a doctor or a dentist, mention of whose work has been made here. We have now a fully equipped department of health and in connection with it a comprehensive system of social insurance. This is a matter that is rapidly coming to the attention of the public and will have to be faced as a legislative issue very soon. I think the committee should take up the question of how men in the plant are to be educated to the right attitude toward health insurance.

DR. HENRY C. METCALF: The health work appeals to me as one of the most vital, if not the most fundamental, aspect of all our work. Health is absolutely the basis of economic and social efficiency. I want to add a word to the general sentiment expressed here, namely: that it would be one of the gravest mistakes this Association could make to surrender or in any way diminish the interest of the Association in problems of industrial health. As a contribution to the health problems may I call your attention to the health section of the report of the Committee on Vocational Guidance, page 317. There you will find a health program covering in outline physical examination, knowledge of the working conditions of the business, preventive and curative measures, and perpetual inspection and oversight of men and plant conditions, including follow-up of all classes of workers.

MR. R. J. FOSTER (International Textbook Company): An idea struck me while listening to this discussion based on my practical experience with the Philadelphia & Reading Coal and Iron Co. in the Schuylkill anthracite region, and what I observed for many years around mining villages when my duties as editor of the *Colliery Engineer* required my visiting the coal mines.

This idea is that, while all the work, as proposed, to conserve the health and safety of employees is a splendid movement, to be most effective it should go a little further than dealing with the individual employee, and go back to his home. The unsanitary conditions found in the homes of a large proportion of the lower grade of mine workers, and probably in the same class of employees in manufacturing establishments, will have a great effect in neutralizing the work done with the employee while he is in the plant. There have been efforts made by some very progressive

mining companies in opening up new plants, to give their employees a better type of homes, containing modern conveniences, such as bath rooms and toilet facilities. In most cases, these efforts were not productive of good, as they went too far at the start. They furnished such conveniences to a type of working people who were not, in their former European homes, accustomed to even as good conditions as found in the ordinary miners' houses. The result was that the bath-tubs were used for coal bins, or for the storage of potatoes and other vegetables, and ashes and garbage were dumped into the water closets until drain pipes were blocked and the drains could not be flushed.

The late Thomas Lynch, when president of the Frick Coal Co., started work in the matter of making mine workers' homes more sanitary in a rational way. He first had the houses of the mine villages put in first-class repair, had all outbuildings that were thrown together with discarded lumber and built of discarded material torn down and replaced by plain, well-built outbuildings. He had the muddy streets in the mine villages graded and put in good shape. Concrete gutters and curbs with cinder sidewalks were placed on both sides of the street. Sewers were installed and drains at each house running to the sewers were put in. When this was done he had an inspector at each plant, who inspected these homes without notice, and if they were not in all cases kept in a clean and sanitary condition the occupants were warned, and if the warning did not result in proper observance of cleanliness and sanitary rules, the houses would have to be vacated and given to someone else, who would replace the ejected tenant in the employ of the company. Mr. Lynch's idea was that when the large mass of foreign-speaking mine workers were trained by these simple arrangements for cleanliness and sanitation, it would be time to put in bath rooms and other conveniences. Had he lived, he proposed to do this at the proper time. There is no doubt in my mind but that his successors, trained by him, will follow out his ideas.

Then he went further in the matter of the education of the children of the mine workers. The mine officials employed by the Frick Company were encouraged to take an active interest in the affairs of the townships and to become members of the school boards. Mr. Lynch helped some of the townships to replace old, unsanitary buildings with school houses that are

convenient, sanitary and equipped with bath facilities. The young children when they go to school in a filthy condition are taken in hand and bathed by the teachers, and the older ones are required to go to the bath rooms and bathe themselves. It has been found that the sending of dirty children home to be washed and made clean merely resulted in a superficial cleansing. The new plan taught the children the necessity of cleanliness and their influence in the home helped to make that cleaner.

Many mine villages which a few years ago were most unpleasant to walk through on account of the filth and stench are now as neat as any village of workingmen's homes possibly can be.

I think the committee should put such means through, which, in addition to teaching and providing sanitation and hygiene for employees at the works, provide object lessons and other information that they can take home and carry out in their home lives as well as at their places of work.

MR. J. E. BANKS: Ambridge, Pennsylvania, site of one of the American Bridge Company plants, has a population of about 10,000. The company keeps a trained nurse to take care not only of the accidents at the works, but also sick cases in the homes. This last year was added a "town visitor." Her salary is in part paid for by two or three of the smaller companies. She has a knowledge of most of the languages that are represented among the families visited. It is her duty to interpret for the nurse when necessary, to teach the people how to keep their homes clean and decent, and in any way that she can to encourage them toward things that are better. It has done much good in connecting up the company with the people, not only with the working men in the shop, but with the people in the homes. It impresses them with the feeling that we really care something about their bodily welfare.

MR. PAUL KREUZPOINTNER: May I be permitted, in this connection, to say that a month ago, when attending the triennial meeting of the National Conservation Congress, the committee on the conservation of human resources stated that about 60 per cent of our young men are unfit for military service. Dr. John H. Finley, New York State Commissioner of Education, stated before the Ways and Means Committee of the Assembly at Albany, in opposing military training in the schools, but endorsing strongly the legislative provision for instruction in hygiene.

that out of 11,012 applications for admission to the United States Marine Corps, only 316 were able to pass the physical examination. The total number of applicants for service in the regular army during fifty-eight days, in fifty-four cities, ending May 12th, was 3,263. Out of these 728 were accepted.

I only wish to call your attention to the importance of this subject at the present time in connection with the universal demand for military and industrial preparedness.

MISS HARRIET R. FOX: Some of those present may be interested in a means of prevention which we have found to be quite good. We employ a great many young girls, but before any little girl is taken into the establishment she visits the nurse. Frequently her mother, who has come with her to help her procure employment, goes with her to the nurse. We find this an excellent plan, for many reasons. The nurse makes an examination which, although somewhat superficial, does include such matters as the teeth, skin, hair and general cleanliness. You may be surprised to know how much attention the hair requires. I have been shocked in going through factories to notice how badly the heads of many of the workers need attention. We have the girls examined by the nurse, before they are employed, and frequently we have to send them home with suggestions as to the general care particularly of their hair and of their teeth. They are grateful for the suggestions and come back, after giving the necessary care at home or paying a visit to the dentist or doing whatever may have been necessary. We continue that medical inspection for some time, each girl making a visit to the nurse every two weeks. We are fortunate in having a nurse who can appeal earnestly to the girls, and with whom they like to come in contact, and she gives them a great deal of advice, and I believe she is doing splendid work.

The little girls get the idea that they are expected to be careful about their health and appearance, and that thought spreads to the older girls who would resent a more direct appeal. In employing every little girl, we look upon her as a future book-keeper or saleswoman, we think of her service with us in the future; we never consider her merely as a little girl being temporarily employed, and to be dispensed with in a short time. This plan starts the new employees in the right way, and as they grow older, we believe that we shall have a set of women who

will be very careful in regard to matters of health and appearance, both of which are of great importance in our business.

MR. W. R. DEFIELD: We not only have the dentist part time in our Kansas City establishment, which Mr. Jones described, but we have a dentist on whole time, and three dentists on part time, in our Chicago establishment, and they have done wonderful work. I will give any one the statistics of what they have done.

We have also in our employ at Chicago three doctors, one doctor in Kansas City, one in the New York establishment, as well as nurses, and our medical plan goes back into the homes of the employees, and those who have been with us one year or more are entitled to medical attention without cost for any cause whatever. We carry insurance so as to protect the widows of men who might die while in our employ to the extent of one-quarter of their salary during the balance of the life of the widow, and the children are protected also.

To any who might be interested in the way we have organized that part of our welfare or educational department, I would be glad to forward full literature, if they will address me.

MR. M. J. JONES: I will say that this dental hygiene proposition started in Pittsburgh, really. The Armstrong Cork Company was the first company in this country to do anything seriously in the way of a dental clinic for its employees. We are therefore in the home of dental hygiene. The Diamond Match Company, at Barberton, Ohio, because of the phosphorus used in the matches, were compelled to do something, but the Armstrong Cork Company were the first people to take this problem up. The minute the Diamond Match Company stopped using phosphorus, their clinic stopped.

I think it would be of value to you to know that two educational films on oral hygiene are available for use. One is put out by the Oral Hygiene Committee of the New York Dental Society, Dr. A. W. Smith, secretary, Rochester, New York, called "Oral Health," and that is probably the best educational film along this line in existence. The stereopticon lecture on this subject is from the hub of the United States, Boston, and is issued under the auspices of the National Mouth Hygiene Association, and is a dental lecture, which can be procured at the cost of \$2 a lecture. It is a written lecture, and your local dentist, if he is

a dentist who belongs to the organized profession, would be able to get that for you. It is a lecture on the hygiene of the mouth, illustrated with seventy very good slides.

THE CHAIRMAN: Emphasis seems to have been placed by most of the speakers on the importance of taking up for next year a little more in detail the health part of this subject, which is another method of looking after the safety of those for whom we feel more or less responsible. If any one in the room has anything specific to tell as to ways in which in their organization they are keeping their employees in touch with general health problems, or specific health problems, we would like to hear from them. I know of organizations which are doing quite a little in that line, particularly organizations which publish a shop, store or organization paper. In our own institution we had running through our house publication a long while articles by physicians—articles by our own physician and others—on matters of diet and fresh air, exercise, the requisite quantity of sleep, bathing, and all those things which help to make the normal healthy person.

MR. C. R. DOOLEY: We tried a little experiment in our night school last winter in having our physician give a certain amount of examination and tabulating the findings, and we are now wondering how to go at the subject in order to act on the hint you have suggested. We have given the hint, and it has sometimes been a very strong one, but are not in a position to furnish the actual service and pay the bill for it. We find in a great many instances the employees will not act on it. Just how to get the employee to act on the advice you give him, and not to make him feel that he is being paternalized, is quite a delicate matter. We think it is not wise to pay the bill for him, or perhaps we should pay it for him. Our feeling is that we should find out what is the matter with the man, that we should approach him directly. A specific intimation as to what he should do is not enough—something more direct must be done.

There is one thought which occurs to me, and that is that this Committee might co-operate with the Committee on Public Schools to get some of this doctrine into the public school curricula.

THE CHAIRMAN: Mr. Auel, will you be good enough to close the discussion?

MR. C. B. AUDEL: I would like to say a few words in a dual capacity, first as a representative of the Westinghouse Electric and Manufacturing Company, and secondly, as a member of the present Committee. We find in our works that but one-quarter of 1 per cent of the disabling accidents are due to the absence of safety devices, while 22 per cent are due to carelessness on the part of the injured party. If we were anything but ultra-conservative in our estimates, and were to include the carelessness of a fellow worker, etc., the percentage would amount to 40 or even 50 per cent.

I recall a representative of the insurance company which was carrying our accident insurance a few years ago, visiting our plant, and stating that his home office was much concerned over the number of fatal accidents we had had during the preceding year. He was not half so much concerned as we were, but I think, without exception, all of these fatal accidents came within the class of the unpreventable kind, as least so far as our present knowledge goes, as, for example, a man leaning against a freight car and falling asleep, thus affording opportunity for another freight car to crush him.

This representative was given the run of our works, and after spending several days in going over them, I asked what percentage of the works he had inspected. He replied, "about 20 per cent." I then asked him to estimate roughly what it would cost to put in safety devices covering that 20 per cent, and he answered, "approximately one-quarter of a million dollars." I next said, at that rate the entire works would require five times that amount, or considerably over a million dollars, and if he should recommend the expenditure of such a sum, from what I knew of the situation our company would have to commence carrying its own insurance, but, "Look at these figures—only one-quarter of 1 per cent of our accidents could be prevented by the expenditure of the \$1,000,000 which you recommend, while 22 per cent are due to carelessness. If you had that \$1,000,000, where would you put the money?" He replied, "I would certainly go after carelessness and drop the safety device end of it."

It is a fact that carelessness breeds accidents, but it breeds trouble of other kinds as well, and I think you will all agree with me that the one solution for carelessness, as far as our present knowledge goes, is education. Unfortunately, education re-

quires time, and if you have a turnover of 35, 40, 60, 100 per cent or more, how can you educate employees when they move so rapidly about?

It is beginning to be driven into my mind that education for the prevention of accidents should be undertaken not so much by the employer as by the community, and if we do not go out into the communities and into the homes, we are going to make practically no progress. So it seems to me there should be a much broader campaign undertaken by this Association and by the states in going out into the communities, and into the homes, teaching the people the need of carefulness in their habits, if we are really going to accomplish anything.

When it comes to the safety device end of it, I have never seen such an utterly ridiculous situation as exists in this country today. For example, in Detroit you can build a boiler and operate it with perfect safety to the inhabitants. In Philadelphia the same boiler, according to the safety rules adopted by the city, would not operate at all, while if you attempted to operate it in Boston it would simply blow up.

Again, the loss of a hand in the state of Pennsylvania is not equal to the loss of that same hand just across the line in New York state, or in another direction just across the line in New Jersey. Think of the absurdity of our various state Legislatures in spending time formulating rules of one sort and another, each state having laws differing from every other state in the Union, until now we have thirty-one sets of laws governing the application of safety devices—none of them adequate in the main, and every last one of them sooner or later to be thrown out. That is the situation confronting us today on the safety end of it, and when it comes to health, as some of the speakers have already mentioned, the situation is even worse.

I recall within the past year in the borough of Pitcairn, near here, there was a case of tuberculosis to which we called the attention of the borough authorities, but received no response or aid whatsoever, yet a few blocks away the borough was very careful to put up a sign cautioning automobilists: "Go slow. School on this street," the bigger menace of the two being utterly ignored.

So it looks to me, as already stated, that in endeavoring to introduce educational features into any works, in view of the

large turnover in most works, employers are approaching the problem from the wrong end, and that this Association and all other national organizations engaged in similar work should urge the states to go into the communities and wake them up, for employers can hardly undertake to do so. Our own works, for example, as Mr. Foster recommended, could not have any one delegated to go out into a community and educate that community, because our employees are spread broadcast over a dozen communities.

I think, moreover, the time has come when the digestive apparatus of this country needs some sort of a tonic, and one of the best tonics that can be given to it would be an immigration law preventing any further influx of immigrants; not, if you please, that that is the broadest viewpoint to take, but because our digestive apparatus has gone wrong and we need time to assimilate what we now have.

Further improvement could be made too if we had a national employment agency to spread such labor as we have more uniformly over this country instead of having it congested in *foci* such as Pittsburgh and other cities.

We must teach the people also that what we want is quality, not quantity, in the human species. I have seen, for instance, fifteen members of a family exist on garbage. How can you teach people of that kind the benefits of right living, of the advantages of bathing, cleanliness, etc. When we permit that class of people to breed and bring forth children and dump them on the community, ill-fed, ill-clothed, and ill-educated, we cannot expect very good results.

How many of you know that in this state we have 500,000 foreign-born children over the age of ten years that can neither read nor write English; and what is worse, that number, 500,000, has jumped from 250,000 in the past ten years.

In closing and as one of the Committee, I am willing to accept Mr. Collyer's criticisms of the report, as they are justified. I personally did not feel satisfied. In extenuation, however, our Chairman, Mr. Ashe, has had very serious illness in his family for the past three months, and that has precluded the program being carried out as laid down by the Committee. We originally started to exchange our views by correspondence, then arranged for a series of meetings to be held in New York City;

but, on account of the illness in Mr. Ashe's family, only the first meeting could be thus held, the remainder of the program being carried out at much disadvantage by correspondence. I shall report to Mr. Ashe the consensus of opinion of the meeting that next year we should devote, if the Committee is continued, the larger part of our efforts to the subject of health.

COMMITTEE ON UNSKILLED LABOR

MR. J. E. BANKS, *Chairman*
AMERICAN BRIDGE COMPANY
Ambridge, Pa.

MR. CARL S. COLER
CASINO TECHNICAL NIGHT SCHOOL
East Pittsburgh, Pa.

MR. C. E. BILTON
THE STANDARD MANUFACTURING CO.
Bridgeport, Conn.

MR. G. GUY VIA
NEWPORT NEWS SHIPBUILDING AND
DRY DOCK CO.
Newport News, Va.

MR. L. T. WARNER
THE WARNER BROTHERS COMPANY
Bridgeport, Conn.

THURSDAY—AFTERNOON SESSION.

UNSKILLED LABOR.

THURSDAY AFTERNOON—JUNE 1ST, 1916.

C. R. DOOLEY, *Presiding.*

THE CHAIRMAN: We will now hear the report of the Committee on Unskilled Labor, Mr. J. E. Banks, of the American Bridge Company, Ambridge, Pa., Chairman of the Committee. Mr. Banks will now present the report.

MR. J. E. BANKS: I feel specially gratified that we have so many here this afternoon for the meeting. The people with whom we have to deal in connection with this subject form possibly the greatest industrial asset of America. They are the foreign-born.

In our large manufacturing industries, especially in the years that are immediately ahead of us, we will be more dependent on the foreign born labor than ever before in our history. We have got to use this labor. We would not keep these people from coming here if we could because it is necessary for us to have them; I for one am glad to have them, and I would not insist always that they be able to read and write in their own language. It is needful for us as citizens and as companies that we get the best class of this foreign labor, that we take the best care of them and that we retain them the best we can. When you come to know the foreign-born somewhat better you find out how much does it depend on their treatment by the company as to the ability of the company to hold the superior ones of them. We have found that three-quarters of those who come to us do so because some of their friends are employed by the company or in the vicinity, and these people have written to the others and spoken well of the company. They come to the city, to a considerable extent, because the city is well spoken of. To repeat, the way in which we endeavor to build them up and to give them opportunity for advancement and make them feel that they are part of our concern will have to do with our being able to get the best from them and also to be able to retain them for the longest time.

I was requested something like a year ago by the president of the company to take up the matter of further school development. The American Bridge Company has fourteen plants in various cities. The President asked me how many foreign languages I spoke. I had the advantage of having lived in a foreign land and of having the spirit toward these foreigners which only comes as a result of living in a foreign land. I lived three days in Paris, only three days, but I felt like a foreigner, and felt how different it was to be an American in Paris than an American in the United States. I had previously been among people who considered themselves inferior to the white people, and the position was different. I have always found that in dealing with any people fairly you can deal with them with a large measure of success and easily. I tried that plan on the other side of the earth—straight down from here—as I was located there for some time.

In dealing with some of our foreign-born workers in Ambridge, sixteen miles from the City of Pittsburgh, I thought it was the natural thing to do to go to their leaders. I said I wanted to know them more closely, to be able to appreciate more the things that affected their lives. So I introduced myself to the various priests among them, and various national society leaders, such as the President of the National Polish Alliance, and the Slavic Society, and came to know them. I have a close acquaintance with the Polish priest, the Slavic priest, the Russian priest, and the Greek Catholic priest, and all who stand as leaders of any particular portion of our foreign-born employees.

I have talked to these leaders and have told them what we had in mind for their people,—to learn more English and be in a position to go to higher things, and have things better in their home life. I told them I intended to speak only that which was true to them, and do nothing in connection with them that I believed to be wrong. I felt that we must develop through these leaders in the people which they control that spirit of sympathy which is so needful for the best results to come about in human relationship.

I went to the Slavic priest, a Croatian, a fine type of man, manly in his bearing—a man who had large influence in his own land—and talked with him about the problems of his followers here in America. He loaned to me some books to read that I

might understand more of the things that interested his people. I encouraged our people to give \$200 towards the Russian Church. They had built too large a church and put too much in it and were in debt. I have addressed two National Alliance meetings which the Poles have had, and encouraged their war-relief measures—they have come to count me as a friend.

I was introduced at the Falcon Society meeting of the Poles as a personal friend of the leader. I told them things which did a great deal toward having them feel kindly toward me. The Falcons were in uniform. They are a drilled body of the Poles. The Falcon is the national bird of Poland as the Eagle is of America. I told them, what I believed to be true, that there would be a larger proportion of the audience before me that would volunteer for service for this Nation in case of war than would be from an average lot of the same size of American men. They were bred to war for freedom in the old days and the spirit of loyalty to America was much in evidence among them.

The foreigner is largely a mystery to people who have had no particular dealings with them in a human sort of way. You are apt to think they are greater and better than they are, if your mind is naturally largely sympathetic, or if it is not, you are apt to think they are less worthy, less great, than they are. You will find if you touch them in a noble way that the response that comes from it is of nobility to a high degree. I have found in this country in dealing with foreign people how quick and certain is this response of nobility from them.

I have the assurance from the management at Ambridge, that as these men become further qualified, particularly through their knowledge of English, that they will be advanced to higher positions. We had a foreign-born man superintendent of one of the shops. There are now some ten or a dozen who are squad bosses in the plant. Sometimes it is well, for example, to take a man of Slavic birth and put him in charge of Italians, or a man of Greek birth and put him in charge of Poles. As teachers, we have been able to connect up nicely with the shop management. There came to me recently a young man who had been working at one particular line of work in our shop, a Greek from the Island of Lemnos who wanted to be transferred, and did not have the nerve to talk to his foreman or the employment officer. I spoke for this fellow who was so modest he could not do it

himself, to the employment officer, and he assented to do what he could for him and appreciated the conditions of the case.

This subject of unskilled labor covers the Negro of America also. I have never had a more satisfactory visit in my life, I think, than I had last winter to the plant of the Newport News Shipbuilding Company, one of the large shipbuilding companies of the world. I found the people at that plant very largely, particularly those who had anything to do with the welfare work, to be men of Virginia birth. These men were doing all they could to bring out the good qualities of the Negro, to bring out the best in him, and fit him for his work, and make the most of him in life. I come of Abolitionist New England ancestry and am not easily convinced, and to find the southern men doing this fine thing in such a fine way was one of the most gratifying things I have ever run across.

REPORT OF COMMITTEE ON UNSKILLED LABOR

The growing recognition of the Man in modern industrial society has brought forward for consideration, in an educational way, the Unskilled Laborer, native and foreign-born. That there is need for this consideration, both Society and Industry are coming, at least in part, to appreciate.

The uncertainty, in number and quality, of the foreign-born labor supply, already a matter of concern, will be seriously realized when the nations of Europe come to adjust themselves after the War. It behooves us, as corporate industry and as individual, to see that the care of the Unskilled Laborer is such that we shall attract and retain of the best that is hereafter permitted to come to America.

It is well also that, particularly in the Southland, there be afforded for the negro laborer, by education and by practical such opportunity as may secure for him a fitting place in the Nation's industry.

To make the most of the foreign-born and the negro laborer, leaders must be developed from among them that know their language and their ways; and it will be, in part, the task of the corporations to provide for this.

A personal letter was sent by this Committee to each member of the Association. Replies were received from a majority of them. These replies indicate that by most of the firms concerned, comparatively little educational work has thus far been attempted for the unskilled labor class,—but much interest in the subject is shown and intention expressed. It seemed well to the Committee to offer in this, its first Report, a statement of the educational work as developed by Companies represented among its members. It is hoped that another year will provide matter for a more extended report.

THE CASINO TECHNICAL NIGHT SCHOOL.

EAST PITTSBURGH, PA.

At present our Educational Work among Foreign employees is quite informal though we have hopes of developing this work to a greater extent as soon as possible.

The department was started about eleven years ago as one of the four branches of the Night School.

There are some eighty men and ten women enrolled. The following information applies to the classes for men only as the work for the women is not at all systematized.

Age.—The men are 18 to 35 years of age, averaging 23. This means that our work does not reach the younger generation who are presumably in the public schools.

Nationality.—The majority are natives of Austria, Greece and Italy although Germany, Sweden, Norway, Turkey, France and Russia are represented.

Previous Education.—About 15% are unable to read and write their native language. About 10% have had some education in High Schools and Preparatory Schools of this country and their native country. This means that the great majority rank with our graded school work.

Classification.—We determine the class assignment for each student entirely by his ability to speak and understand English. This is largely because the principal object of our work is to teach the English language.

Subjects Taught.—Alphabet, Writing, Reading, Conversation, Spelling, Composition, Arithmetic, American History and Citizenship.

Plan of Instruction.—The department is divided into four classes. To the first class those who have no understanding of English are assigned for the study of the alphabet, writing, spelling and pronunciation. The text matter used consists largely of words met with in their daily employment, such as names of tools, clothing, etc. Verbs and nouns are used most extensively at the beginning. Connecting and modifying words are picked up incidentally. Grammar in its formal sense is not taught anywhere in the course. In fact the first conceptions of English

are given by what might be called a process of injection rather than analysis. Dr. E. P. Roberts' lesson sheets, originally prepared for the "Y. M. C. A." supplemented by similar lessons prepared by our instructors, are used.

To the second class are assigned men who are able to read simple language fairly well. This class uses Wallach's First Book of English for Foreigners. Definitions and spelling are studied from this reader. A great deal is accomplished through a discussion of the subject-matter by the men, such discussions being criticized by the instructor who watches for their mistakes. Toward the end of this class, events in American History and some of the simpler Institutions of our Government are used as subject-matter.

The third class is simply a further extension of the second class with the addition of the simple operations of Arithmetic. Wallach's Second Book in English for Foreigners is used. Here, also the students write original sentences.

The fourth class is composed of men who speak the language very well. A more technical study of words, their classification and relation to each other is taken up although in an informal way. In Arithmetic, Fractions, Decimals and Percentage are taken up. United States History and United States Government are studied from Chancellor's History and Government of the United States. Those who finish this class generally are able to enter the Freshman Year of the Engineering Department, although few do.

Instructors.—We have four instructors, one of whom is in charge of the department. None of them are teachers by profession. All of them are employees in our Works. They are succeeding with their teaching because of their interest in the foreigner, personally, and because of their intimate knowledge of the industrial conditions under which the foreigners work. They are handicapped only through lack of time, as they devote only evenings to this work.

Attitude.—Our foreign students as a group are very enthusiastic and appreciative of their opportunity. They take a great interest in their school as an institution and make every possible effort to learn the English language and to understand the habits and ideals of our country. We are now reaching only the most intelligent and most ambitious of the foreigners, although we

realize that there is a very large field among a lower class of these people who will probably never achieve any great personal development but who may cause the Nation a great deal of trouble if they are not, in some way, instilled with the spirit of American patriotism. The public schools probably can reach this class through the coming generation better than we can.

Expense.—Each student pays a tuition of \$10.00 for a term of four and one-half months, three nights per week, three hours per night. There are two such terms each year. This pays a little less than one-half of the running expense, the balance being paid largely by the Company, and to some extent by the public school boards.

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY.

NEWPORT NEWS, VA.

We have in our employ about two thousand eight hundred colored men, and these, together with a few native whites and foreigners, constitute our unskilled labor. On account of the relatively small percentage of foreigners illiterate in our language, the institution of education courses for unskilled men is considered by the Company to be more properly a civic duty than an economic necessity. From the economic point of view in the education of unskilled people, however, the education of the colored boy is considered to be of first importance.

In view of the success that had attended the development of the night schools for white boys, the Company instituted two night school classes for colored boys in October, 1912. These classes opened with a total enrollment of about twenty-five, and during the winter and spring months, the enrollment was materially increased, and the effects in operating the classes resulted in a sufficient measure of success to prove to the public school authorities that a real public need existed. Arrangements were made by which the classes were taken over by the public school system. These classes have experienced a steady growth in interest and attendance ever since they have been instituted.

Number.—There are now enrolled about 130 students, with a daily average attendance of about 80. An appreciable number of the absences are caused by overtime work.

Age.—In age they range from 14 to 25 years. Other classes are being formed to take care of the older men.

Previous Education.—Home conditions are usually such that these boys are put to work as soon as the law permits. As a result, few ever get beyond the sixth year in the public schools.

Classification.—There are in all four classes, two classes in a room. These are ample to care for the needs of the average applicant for admission.

Subjects Taught.—The subjects taught are arithmetic, spelling, reading, writing, hygiene, and first aid. These regular classes are supplemented by lectures on Civics, Thrift, Health, Sanitation, etc., illustrated by motion pictures. This feature appeals to them strongly.

Plan of Instruction.—As there are two classes for each teacher, one class is at work while the other recites. This arrangement has many disadvantages, but as both instructors are unusually capable, the results obtained are much better than would ordinarily be expected. In addition to the regular work of the class rooms, considerable home effort is required.

Instructors.—The instructors are themselves negroes, both graduates of negro schools, and both deeply interested in the work. The spirit of cooperation between teacher and scholar is always present, and a genuine attachment is evident.

Attitude of Students.—The students are always attentive, willing and receptive, and instances of discipline are rare.

Results Obtained.—As a result of the School influence, these boys are decidedly better in their work, regular in attendance, more careful, neater in appearance, and thrifty. Many have opened savings accounts with the local banks, and in addition to helping at home, have put aside considerable sums. In fine, the results obtained more than justify the small expenditure from the public funds for the upkeep of these classes.

REPORT OF CONDITIONS AMONG THE FOREIGN SPEAKING AND ILLITERATE AT THE PLANT OF THE WARNER BROTHERS COMPANY.

BRIDGEPORT, CONN.

History.—The company was established in 1874, and until about fifteen years ago employed none but American and Irish help. Nine-tenths of the workers were women, and were of a high grade of intelligence. Gradually, however, this type of women went into other occupations; and also the further standardizing and specializing of the process of manufacture, made it possible to employ the foreign-speaking women who came to Bridgeport in much numbers, as the men of the families became employed in the metal-working plants located here. Gradually the number of foreign-born and foreign-speaking in the plant has risen until now it represents about fifty per cent. of the total.

Factory Conditions.—The factory has four main departments: Corset Department, Corset Accessories Department, Metal Department, and Box Department.

In the Metal Department, nearly three-quarters of the girls are foreigners.

In the Box Department, more than one-half are foreigners.

In the Accessories Department, the numbers are about equal.

In the Corset Department, there are fewer foreigners than English-speaking.

The work in the corset and corset accessories department is very clean work, and attracts the higher class of labor. In the Paper Box Department the work is not quite so attractive, because so much of the work is with glue; and in the Metal Department the noise of the automatic machines make it the least desirable for persons of education.

Number.—The total number of employees is 3,300, of which 2,700 are women.

Nationality.—We have no exact figures on this subject. The main nationalities are: Irish, Hungarian, Russian and Polish Jews, Lithuanian, Italian.

Age.—We have no data that gives exact ages. The average

age, however, would probably be somewhere about twenty-three to twenty-five.

Sex.—Noted above.

Previous Education.—We have no data under this heading.

Classification.—We do not classify the operatives.

Subjects Taught.—We have never taught anything other than the English language to the foreign-speaking women. Other classes that have been operated by the Warner Club, under the organization of the employees and with the cooperation of the Young Women's Christian Association, have been intended for the better educated employees. These classes were such as Cooking, Dressmaking, Millinery, Elocution, Singing, etc.

The instruction of the work people in their duties is carried on by numerous instructors employed in each room, in connection with each operation, by keeping close supervision of the new operatives when they begin their work. They are not grouped in a separate school, but are mixed in pretty generally with the efficient operatives.

Plan of Instruction.—The classes in English for foreigners were taught generally by volunteer teachers with small groups of girls. The classes are all abandoned at the present time because of the difficulty of finding an hour when the girls can be brought together.

Instructors.—The instructors have been school teachers and educated girls in the office force.

Attitude of Students.—The students were eager to learn English, and very grateful for the work done with them. From the standpoint of the students and their eagerness to learn English, there appeared to be no difficulties in the way.

Results Obtained.—These have not been very satisfactory because the work was never very thoroughly organized, and only a few classes were tried.

Expense, Tuition, etc.—The girls paid fifty cents for a term, which covered only the cost of materials and supplies.

THE WARNER BROTHERS COMPANY,

L. T. WARNER.

AMERICAN BRIDGE COMPANY.

AMBRIDGE, PA.

There are employed at Ambridge about two thousand foreign-born workmen, of whom some one thousand five hundred would be classed as semi-skilled or unskilled. But few boys are employed. Educational work was begun in this Department in the fall of 1909. No teaching of the adult is undertaken in the public school or by the Y. M. C. A.

Number.—The first year's class was small, the next year brought too large a class for one teacher and was divided. The number of students, except in dull years of manufacture, has steadily increased until we have now a total enrollment of about 125, an average enrollment of 50, with four or five teachers. The students represent, besides a few from northern Europe, most of the races of Austria, Russia, Italy and Greece—a larger number of Poles than of any other people.

Age.—The students are in age, for the most part, from eighteen to thirty years. If beyond the latter age, they are slow in learning, unless fairly well educated in the home language. Only a few women have appeared for school work, but as a new town, Ambridge has as yet but a small available number above public school age. It is hoped to develop classes among them later.

Previous Education.—Of those who apply for entrance to the School, about one in ten or so have no school training in the language of their birthplace; but few have had more than lower grade work.

Classification.—When of sufficient number, the classes, for the first year, are separated by nationality or related nationality. We find that Latin race and Slav, for example, do not go well together in beginning study. The higher classes are grouped by degree of advancement.

Subjects Taught.—The subjects are English speaking, reading, writing, spelling and composition, using "English for Adult Students," by J. E. Banks, followed by Blodgett's Third Reader and Barnes' Elementary History. Civics, such as in the pamphlets of the "Sons of the American Revolution," is given in

the first year. For the advanced grades instruction is offered in preparation for the "Second Papers" examination, using, in part, "Information for Future Citizens," by Naturalization Publishing Company. When able to use English sufficiently, the students can enter the regular Night School for Arithmetic, Drawing, etc.

Plan of Instruction.—The first lesson, in the object and conversational way, introduces the student to the ordinary things of the classroom, and enables him to speak of them. From the classroom to out of doors, street, home, field and factory, the endeavor is made to lead the student on to comprehension and to power of expressing himself in English. The result wanted for our foreign-born is ability to—with a fair degree of accuracy—speak, read and write the English language that he needs in work, play and social life, and to do it in a way that will forward him toward a worthy citizenship.

Instructors.—The instructors have come, for most part, from the company employees, both American and foreign-born. The best teacher, but a rare one, is the man or woman of foreign birth, with good training in the native language abroad and the English language here, who has the spirit of instruction. We have had three such: a Russian-Pole with imperial institute training; a Bohemian, graduate of Harvard; and an Austrian (German) young woman with governess experience in this country. No one without a knowledge of the students' language can do so well as the teacher who may explain non-translatable words and phrases from the English. On the other hand, the American instructor will exact, of necessity, the use of nothing but English in class time. The foreign-born instructor who will require this use of English in class time and refer to the native tongue only when necessary for explanation—we have found the ideal teacher. These foreign-born instructors have aided also in communication with the shop workmen, whose language they know.

Attitude of Students.—This has been excellent. Although some half of the students drop out of class because of change in work or because of discouragement at the difficulties of the learning, they do so with a kindly feeling toward the Company and the teachers who have tried to instruct them.

Results Obtained.—About twenty per cent. of those who enter the school go on to the result planned for them. From among these, promotions have come in shop position. This has had an

excellent effect on the foreign-born, who through it see a chance for their betterment, and also recognize the spirit of fair play shown by the Company. The men who learn English become, naturally, leaders of their people in civic, business and social life.

Expense.—The students pay one dollar a month tuition, and for their books. The remaining expense is met by the American Bridge Company. Experience in managing voluntary schools tends to show the wisdom, in most cases, of requiring a school fee from the students. They are inclined to do better work in their studies when conscious that it costs them something. They are willing that the expense shall be borne in part by the Company, but they have a better feeling in the matter if they bear a part of the expense themselves.

BIBLIOGRAPHY

TEXT-BOOKS.

English

- Austin, R. "Lessons in English for Foreign Women." American Book Company.
- Banks, J. E. "English for Adult Students of Foreign Birth." J. E. Banks, Ambridge, Pa.
- Beverly, C. "Oral English." Atkinson, Mentzer & Company.
- Chancellor, Wm. E. "Standard Short Course for Evening Schools." American Book Company.
- Chancellor, Wm. E. "Studies in English." American Book Company.
- Cole, R. E. "Everyday English for Every Coming American." Y. M. C. A., Cleveland, Ohio.
- Faustine & Wagner. "A New Reader for Evening Schools." Hinds, Noble & Eldredge.
- Field, W. S., and Coveney, M. E. "English for New Americans." Silver, Burdett & Company.
- Harrington, W. L., and Cunningham, C. J. "First Book for Non-English-speaking People." 2 books. Language Lessons to accompany first book. D. C. Heath & Company.
- Houghton, Frederick. "First Lessons in English for Foreigners." American Book Company.

- Jimpueff, Mary. "Progressive Lessons in English for Foreigners." First year. Ginn & Company.
- Mintz, F. S. "First Reader for New American Citizens." Macmillan Company.
- Mintz, F. S. "The New American Citizen." A Reader for Foreigners. John J. McVey.
- Mintz, Frances A. "A Practical Speller for Evening Schools."
- O'Brien, S. R. "English for Foreigners." Houghton, Mifflin Company.
- Phillips, A. F. "English for Latin Americans." Silver, Burdett & Company.
- Roberts, P. "English for Coming Americans." Teachers' Manual. Y. M. C. A.
- Roberts, P., and others. "English for Foreigners." University of Illinois.
- Sharpe. "First Reader for Foreigners." American Book Company.
- Swingle, F. B. "English for Evening Schools." Racine, Wis.
- Thorley, W. C. "English Reader for Foreign Students." Macmillan Company.
- Wallach, J. "Book in English for Foreigners." 2 books. Silver, Burdett & Company.
- Wheeler, Charlotte. "A New Speller for Foreigners." Alex. Dulfer Printing Company.

History.

- Barnes. "Elementary History of the United States." American Book Company.
- Chancellor, Wm. E. "History and Government of the United States." American Book Company.
- Montgomery. "Beginners' American History." Ginn & Company.

Civics.

- Carr. "The Immigrant's Guide." Immigrant Educational Society.
- Dole. "The American Citizen." D. C. Heath & Company.
- Hill & Davis. "Civics for New Americans." Houghton, Mifflin Company.

- Plass. "Civics for Foreigners." D. C. Heath & Company.
 Sons of the American Revolution. "Information for Immigrants."
 Zmrhal. "A Primer of Civics." Colonial Dames of Illinois.

Arithmetic.

- Chancellor, Wm. E. "Standard Short Course for Evening Schools." American Book Company.
 "Philadelphia Intermediate Arithmetic." American Book Company.

BIBLIOGRAPHY.

INSTRUCTORS' MAGAZINE, BULLETINS AND BOOKS.

Magazine.

- Immigrants in America Review.

Bulletins.

- Commissioner of Education. Report, 1914; 1915.
 Education of the Immigrant. Bureau of Education, Bulletin 1913, No. 51.
 The Committee for Immigrants in America—Professional Course for Service Among Immigrants. The United States Bureau of Education.
 Citizenship Syllabus. Commissioner of Education, State of New York.
 The Rochester Plan of Immigrant Education. Commissioner of Education, State of New York.
 Syllabus, Teaching English to Foreigners. Department of Education, City of New York.
 Educational Publications, Monthly List. Bureau of Education.
 Ways and Means. Y. M. C. A.

Books.

- Allen. Civics and Health. Ginn & Company.
 Bahlsen. New Methods of Teaching Modern Languages. Teachers' College, New York.

- Cabot. A Course in Citizenship. Houghton, Mifflin Company.
 Gouin. The Art of Teaching and Studying Languages. Longmans, Green & Company.
 New York. Syllabus in Civics for Elementary Schools. Board of Education of New York City.
 Stern. Studien und Plaudereien. Henry Holt & Company.
 Sweet. The Practical Study of Languages. Henry Holt & Company.

THE CHAIRMAN: The discussion should be lively this afternoon, because, after all, I think we will all have to admit we are unskilled laborers. We do not know much about our jobs at best. I know there are a number of you here who are directly connected with the employment of the class of labor specified, and before I call on some of you to speak in this connection, we would like some volunteers.

MR. W. H. EYLER: Our Company has attempted to do work among its alien workers, and among other things we have organized a workingman's club. We are very anxious to have all our alien workmen able to read and write the English language. We are anxious to have them become American citizens. A definite campaign with that object in view was organized last February. We have between 13,000 and 14,000 employees in the shop, about 1,000 of whom are aliens. The largest percentage of these men, of course, have only an indifferent knowledge of English. Many of them can understand and can read simple signs, and things of that sort, but as far as a thorough understanding of English goes, it is a different thing.

Our problem has been to reach and to get into these classes our foreigners.

I am not saying this in a spirit of contention, and I will tell you of our failures, in order that we may get suggestion how to overcome them. Out of that one thousand men we have only about fifty in our alien classes. We kept a class record of their attendance and we started out with about one hundred. It sifted down to about fifty, and that fifty is quite regular in attendance. Of course, the classes are without charge, and they are held at times in the day most convenient for the workmen. The Y. M. C. A. in Akron has done a great work in the past with aliens, but practically all of their classes have been held at night,

and it is one of the big problems in the city to meet with the "shift" proposition. The rubber companies there work twenty-four hours a day on three "shifts" so that the public agencies were not able to take care of the men and each establishment has a somewhat different hour to start and end the shift, so you can see the complications.

We organized the classes so that no matter on what shift a man was working he could go into the classes. We got a man to take the instructorship who has had settlement house work experience, in fact, he worked right here in the City of Pittsburgh on that kind of work.

In every way we are endeavoring to interest the foreigner. In our factory newspaper, which comes out weekly, we carried out a campaign for class work, and we are now running weekly inserts on Americanism. I might say that the Americanism side of our work is leading to relatively greater success than the English instruction. In other words, in the case of those foreigners who have a sufficient knowledge of English to understand something of the value of citizenship, we have been able to interest them, and we assist them in every way. We have at the plant all naturalization papers except these two—the first paper and the final paper, which the Courts will not allow to be taken away, as the Clerks of the Court are held personally responsible for the issuance of these two papers. Copies of all other papers we have at the shops, and we help the men to make out the papers and explain to them just what is being done. Of course, he cannot go very far unless he does understand the English language somewhat.

But, so far as the English classes are concerned, we have not felt that we have reached at all the measure of success that we would hope for, and we appreciate there are possibly three ways of encouraging alien attendance at classes. One way might be the system that is used at the Ford plant, with which perhaps some of you are familiar. There a man has a school card and rings his school card the same way as he rings his work card, and if he is not present for classes on two consecutive times his work card is pulled, and he is laid off from work. That is, on other words, compulsory attendance. I am frank to say that the labor situation in Akron is such that we have not felt ourselves in a position to take that stand.

As I see it, another way to get attendance would be to hold out the prospects of promotion, as Mr. Banks has said.

A third method is a direct increase in pay, no matter whether the men have been increased in position or not, in other words, a bonus for attendance at the classes.

I am not able to offer any definite results from the application of any of these three plans so far as we are concerned because our work has not gone on far enough to offer these results. We expect to put in some of these schemes, or some other scheme, that may appear to be best suited for our needs, and I am very anxious to have the representatives from other companies express their views on this proposition.

As I said in the beginning, I have been frank to tell you what I think has been our failure in the matter, in only getting fifty out of one thousand, and the important question with us is to get the rest of the men interested in the class work.

MR. PAUL KREUZPOINTNER: Asking the privilege of saying a few words on this report, I do so not only as a member of this Association, but also as a foreign-born citizen and as a director of the National Immigrant Education Association, although a citizen of the United States for fifty years. Before coming to America I traveled in other countries and I know what it means to enter a foreign country with little or no knowledge of the language, and to adjust oneself to the laws, customs and institutions of this country. Now, then, as long as we invite the people of other nations to come here to partake of our republican form of government, and as long as they are needed in our industries besides, we have to do the best we can with those people and I feel sure if we go at it in an intelligent and sympathetic way we can make good citizens out of them and add a very valuable human asset to our nation, socially and economically.

There lies an immense treasure of talent and useful intelligence dormant with those foreign people which is waiting to be aroused.

We have no free library in Altoona and some five years ago my wife conceived the idea of starting a free library in our house. She commenced with ten books in a soap box, in the summer kitchen, and two members. Today we have over 600 members and nearly 2000 books in the main library at my house and seven branches. We have an Italian branch, a Polish branch,

and a Negro branch, besides some Polish Jews, Italians and Germans in the main library at the house. Nearly all of them are eager to learn and to read, especially the younger people. Some of the foreigners come nearly two miles and sometimes try various subterfuges to get more books than one for the family.

Miss Jane Addams of Hull House is eminently right when she claims that the best way to make these foreign-born people good citizens by encouraging them to retain and cherish what is best in their national characteristics, art, literature and philosophy and engraft upon that naturally fertile soil our language and an understanding of our laws, institutions and the difference between coercive monarchical, autocratic power and the personal responsibilities of citizenship in a democracy.

The Slav generally, but the Bohemian and Pole more so than the others, have a philosophic mind and comprehend easily. The Polish and Russian Jew crowds into school wherever he gets a chance and is the best patronizer of our public libraries and civic centers. The German steadiness, frugality and industry are well known, while the Italian has been made blacker than he is. A small number of criminally inclined have created prejudice against the Italian who, while quick tempered and hasty, is polite, hard working and are making good citizens. The Hungarians and Greeks adapt themselves quite easily, possessing much native intelligence and grasping the advantages of our government. They all yield comparatively easily to our directive influences whenever they feel the sincerity of our intentions, are made to understand that they are not exploited and there is no national prejudice against them. For several reasons, reasons which, unfortunately, are often justified, the immigrant is suspicious and reserved.

Their confidence is soon gained and retained by showing them a square deal and that we have no national prejudice against them and then appeal to their undeveloped intelligence through language teaching, illustrated talks and making them acquainted with our country, its size, resources and the manner how a people governs itself in the city by preserving health, insist upon clean streets, alleys, yards and houses, and how water and light is supplied and who pays for all this service and how it is paid.

What little I have done in this line I have found quite effective.

Much can be accomplished with tact, patience and perseverance, benefiting not only the immigrant but also the industries, the municipalities and national life.

As long as we speak of the education of unskilled labor we have to consider also the status of the white and Negro unskilled labor and there we are dealing with an entirely different proposition. Home, school, public life and the employers have thus far failed to pay the attention to the education of unskilled native labor which the subject deserves. With the modern huge industrial establishments and the ever-increasing economic pressure the contributions of unskilled labor, to the success of the whole are, though small individually, important in the aggregate, and therefore its training as an efficient part of the organization cannot be neglected without disadvantage to the success of the whole. Moreover, the unskilled worker is also a citizen and as such he is an integral part of the social-economic organization, and history tells us that, in the end, the mass always rules, and if unable and untrained to rule with intelligent perception of its rights, duties and responsibilities it will rule with brute force. What the nature of such training should be is another question.

MR. A. E. CLAGGETT: I was in night school work for three years, and there I have had a good deal to do with the foreign-born. I agree very heartily with what was said about sympathizing with and understanding the foreign-born element in our midst. I think that the main problem can be solved right there, by trying to understand them, by having the right attitude toward them. The champion girl speller and one of the strongest high school students of Dayton, Ohio, last year was a Polish Jewess. I say that, because I like to have the right realization of the possibilities in our foreign-born people. Give them opportunities to become what they ought to become.

I wish to urge the work among these foreign-born people along the lines which the Chairman has outlined. We have followed that plan in Dayton. We went to the homes, we went to the priests and to the ministers—they are not all Catholics, of course—we went to the men of influence among them, who had been in this country a longer time and had some influence among them, and we impressed them with the need of getting these people into the high schools, and we got them there. We have been running for the last five or six years in Dayton with an

enrollment of some considerable numbers—we started with from two hundred to three hundred, and worked it up. This year there were many more than that. We get them and hold them, and hold them during the six months of the year, and we do it in the way which has been mentioned here today.

It seems to me from the employment side that we must take into consideration the matter of citizenship; we have something else besides training them to be mechanics. They must be trained in citizenship, not only for their welfare, but for our own welfare and our own safety. I do not know how much the factories in East Youngstown are doing in the way of education. I know from the public school standpoint, there are only nine pupils in the high school of East Youngstown, only nine of them, and one of those is the son of a janitress who goes to the school to help take care of the building. That should make us realize that we are on top of a powder mine, and it is not only for their welfare, but our welfare, and the safety of American institutions that their education is so important.

It seems to me, from the side of the employee and from the side of the employer, based on my experience, that promotion should depend on two things in addition to ability in the shop—that is, on learning the English language and also on becoming naturalized. Those two things should control.

THE CHAIRMAN: One thing which interests me very much is a poster which the Packard Motor Car people have throughout their shops. There is a placard with a large American flag printed on it, which they display in the various rooms of their factory, and printed on it are the words—"Promotion will be given first to those who are naturalized," and a number of other things along that line.

MR. NORMAN COLLYER: Is not that one of the posters of the Americanization Committee?

THE CHAIRMAN: The Secretary of the Americanization Committee is an active worker in that cause, and I believe that Association is going to do a great deal of good.

MR. H. F. DUMBLETON (Packard Motor Car Company): The poster which you mention did not originate with the Americanization Committee, but originated with the Packard Motor Company, and was posted throughout the factory by Alvan Macauley, our President and General Manager. It states that

promotion throughout the factory will be given only to those who have become Americanized. That does not, however, mean that increases in wages will be denied those who are not Americans, because that would be distinctly unjust to those aliens who are among us.

We have at the factory probably about one thousand, maybe twelve hundred aliens. There are of that number seven hundred or eight hundred who speak little or no English. The policy of the company is backed up in a substantial way in that the factory manager has posted a notice throughout the company to the effect that the company will pay for the first papers of all those in the factory who care to take out their first papers. It is necessary, very often, to give a little impetus to any movement of this sort, and that is the way the Packard Motor Car Company is endeavoring to reach the men who are aliens, and to get them to become Americans. The policy of the company is to promote only those who are Americans, and you would be surprised, I think, to know how many have taken out the first papers, allowing the company to pay the Government fee of one dollar. The alien, of course, takes out his papers, and if he brings them to the company and shows the papers, the employment department refunds the money which he has paid for them.

There are two steps we are trying to take in helping the aliens to become Americanized. Both of them are in their infancy, because it was only a few months ago that this "American First" idea was presented to the organization. We have two classes in English for the foreigners. The number of attendants is small, because of the fact that we want to be sure we are on the right track before we enlarge and extend our work. We intend to organize several classes and surely by the time of the next convention we ought to have two or three hundred men enrolled in our English classes. The schools in Detroit have stood in back of the company in assisting those who are able to speak English in making application for their first citizenship papers. The schools have been drawn upon largely by the Packard Motor Car Company employees in instructing them how to take out their first papers.

We later intend to have courses on American history and American government, so that the foreigners, after they have learned to speak English, and have taken out their first papers,

will in due course of time be qualified to take out their last papers.

DR. HENRY C. METCALF: I would like to cite a case in point which came to my attention recently. This is a case which occurred in a factory in the East where there are about five thousand employees. About two hundred of them are Italians, with little or no speaking knowledge of English. One of these Italians, working in a foundry at \$1.60 a day, recently left his job without any notice and called for his pay. Owing to the fact that he was a member of the company band, and had a company uniform, it was necessary, before he could get his back wages, to clear through the employment bureau. The employment supervisor, being very much interested in the reasons for quitting jobs, tried to learn the Italian's reason for leaving. The man could not understand English and the employment clerk could not understand Italian. Through an interpreter the employment supervisor, now reviewing discharges, soon discovered that the Italian had a wife and six children and that he could not support them on \$1.60 per day. This was his only reason for leaving.

Under the old method of departmental hiring and discharging, where the departmental superintendents had full authority in these matters, the man would have gone and there the case would have ended.

In this particular case, however, the employment head made inquiry and found that another department in the same plant urgently needed several workmen, that the Italian could do the work very well and at a considerable increase in pay. He was at once satisfactorily transferred to the new job. On being asked, as a result of this experience, if he would join an evening class in English, he thought that he could not because he had but the "one suit of clothes." He was willing, however, to join a class at the close of his afternoon's work, 4:30 p.m.

I cite this case because it brings home to us a number of fundamental problems—the need for understanding the English language, the question of adequate income, home conditions, and the importance of clearing through a central employment bureau.

THE CHAIRMAN: We would like to hear from Dr. Steinmetz on this topic.

DR. C. P. STEINMETZ: I have very little to say. I appreciate that the problem of unskilled labor is largely the problem of

foreign labor, but not entirely so. There is growing a steadily increasing army of unskilled native born laborers, those children who have left school to enter employment, because of their own ignorance or indolence or that of their parents, and after some years, being in a more or less hopeless condition, because they are not further advanced, they join the ranks of unskilled labor.

That is a more serious problem than the problem of foreign unskilled labor, and these laborers are increasing in number and in hopelessness, while in general the foreign laborer desires to advance, where there is any efficient public school system,—where the school system has not been criminally neglected, and because of this we can be sure that the offspring of the present foreign laborers will grow up to good American citizens. If the next generation is still faulty in the things that we have been talking about, it is the fault of those who control the school systems in our prominent cities.

I am interested in this matter most directly, because a generation ago I myself came as an emigrant in the steerage of a French liner, and therefore I am interested in the foreign labor problem. There are various ways, I believe, of helping solve the problem, but there is one way which does not solve it, although it is becoming, to some extent, popular today, and that is talking at the foreigners and preaching to them what they ought to do, and what they ought to believe, etc. That may be a good thing to increase interest amongst the prominent citizens who may be interested in the immigrant problem, and probably is harmless with the foreigners, because they take it as one of the numerous strange customs in this strange country, but it does not make them American citizens, and in fact does not make them better in any respect.

In the last century when the large immigration came to this country, which made the present nation, and whose offspring are the present native born Americans, there was no Immigration Committee of prominent citizens to meet the foreigners and preach at them, but they, being strangers among the people here, had to learn the American language, because it was the only way in which they could make themselves understood amongst the people of the United States.

Since that time the big industries have grown, and especially the industrial cities, where most of the foreigners of necessity

are brought together, so we have out Little Italy, our Little Poland, our Little Germany, our Little Palestine and various little foreign countries in America. Therefore, like in practically every other movement in the relationship between people of different intellectual and social status, organized effort must take the place of what as a matter of course took place before, a generation ago. That means we have to study the problem of the immigrant and solve it. In my opinion, the first problem, and the main portion of the solution is, to make the foreigners learn the American language as promptly as possible, and you cannot do that without holding out and maintaining some substantial inducement in the guarantee of more rapid promotion or access to positions from which the foreigner is barred as long as he does not speak the American language fluently.

Also, do not let us forget that in times of business depression, those who are American citizens will be the last to be laid off. I refer to the knowledge of the American language as a necessary qualification for American citizenship.

Then the other thing is what we usually overlook. When a foreigner comes here, he comes to a strange country, everything is unfamiliar to him. He does not know our conditions, and his reasoning power fails to accommodate him to our conditions, just as it would fail an American going to a foreign country where he finds everything strange. Therefore, these foreigners may make blunders and may be caught by tricks, being unfamiliar with our conditions, and the foreigner thus requires protection. That is the great crime against our foreign population; that the immigrants who are not familiar with our customs, are left as an easy field of exploitation to every shark who exists, and it is incredible what tricks are successful in exploitation of the emigrant. It must be conceded that it is very largely people of the same race as the emigrant who, after staying here for some time, find the later immigrants an easy prey of exploitation, and take advantage of them. It is, therefore, up to the American citizens to protect the emigrants from being exploited, and having their first experience in America that of a country where there is no right, no law, no protection, no safety and everything goes, as is often the case.

So I believe that the best solution of the emigrant problem is really to take interest in the immigrant, get him to learn our

language, to become a citizen, and to look sharply after his protection. We may not fall a victim to these sharpers, but the immigrant is most likely to fall such a victim. It may look ridiculous to us that he is the victim of a silly trick, but it is not ridiculous to him.

Schenectady has a very large foreign population, and our experience in the teaching of the English language has been much more favorable than mentioned here, because the public school system has for many years maintained evening classes. For some years we have maintained night school for eighty evenings during the winter, and the most popular subject taught is English. We have foreigners go to these schools by the hundreds, and naturally many of them drop out, but many remain. Our experience is that the most efficient teacher of English to foreign classes is the man of the same nationality as the pupils, who can speak English fluently, and knows the pupil's natures, knows their viewpoint, and therefore is much more successful than an American who does not know the pupils' nature.

MISS KATHARINE HUEY (The Curtis Publishing Company): We have arranged to have a large part of our unskilled labor which is discharged come through our office as a clearing office. Not long ago seven of our Italian laborers, who laid our wood block floor, were discontinued, the reason, as it was reported, being that they refused to work. They came in the usual way to the Employment Office to receive their pay. They were unable to explain their case. There was evidently something wrong in the minds of these men—it appeared as if they were getting some unfair treatment. I could not get at the difficulty. There was something about a question of time and half time. They felt that they should get time and a half, instead of straight time, for some work they were doing. Finally I sent for a small Italian boy of fifteen in the office, who acted as an interpreter. The case was explained. It was really a strike, and the leader of the strikers—there were seven of them—was a tremendous fellow, who had evidently frightened the other men, so that they had all walked out.

I felt perfectly convinced it was a case of misunderstanding, that the foreman had failed through inability to express himself, to get the proper point of view into the minds of these men.

We have in our Manufacturing Department a wood block

flooring under our press, and it must be repaired, of course, when the pressmen are not at work, and therefore the men worked on Saturday afternoons to repair the wooden block floor. The foreman had therefore arranged so as to have the wood block workers take a half holiday on Friday afternoon so as to be on hand Saturday afternoon. The change created a great deal of excitement, and before anything could be arranged, they put on their hats and walked out. Had these men had a working knowledge of English, the matter could have been readily explained.

It was nearly a week later that they called at the Employment Office for their money. After my interpreter had helped me to explain the case, all but two wished re-employment.

I then called up the foreman on the telephone, and he said: "I like these men, I can never get men like that, but my boss told me not to re-employ them. I would like to have them." I promptly went to his chief, the latter had not any particular reason for not re-employing them, except that it would undermine his discipline if he kept them. He in turn said: "I could not do anything about it, because my manager does not approve of this sort of thing. A man who leaves the work must go."

Once more I sought the man higher up, and his attitude was that the men should absolutely not return. He said: "Do you think that any man who strikes can ever be a desirable employee?" I said: "Under certain conditions—yes," and the upshot of the matter was that we did convince him, and by means of our small interpreter, who made the case clear to the manager, we obtained his consent to reinstate them as soon as needed.

The whole thing resulted largely on account of the inability of the foreman to get the point of view of the workmen, owing to the fact that they had no medium of language.

We do not at present have any classes in English for foreigners, but I hope, partly as a result of this meeting, we will have them very soon. We have in our employ something like thirty or forty Italians, enough to begin work on.

THE CHAIRMAN: Was that case settled by making it plain to the men, so that they would understand it, or by reversing the manager's orders, and having the half holiday put back on Saturday, and paying time and a half?

MISS HUEY: The half-holiday had to remain on Friday and

the case was not settled through our office; we make a point never to do that. We want the manager to have the entire discipline and get the credit for mutual understanding. It was settled by having those men state they were perfectly willing to work on Saturdays and make formal application to be subsequently referred to their foreman.

MR. CARL S. COLER (Westinghouse Electric & Mfg. Company): In preparing the report which Mr. Banks has presented, it appeared that this question of foreign labor has been thought about to a very insignificant extent only. This is probably due to the fact that unskilled labor has been rather cheaply obtained, and whatever difficulties have been run across due to the lack of training have been more or less indirect.

During recent years, in this vicinity, the price of unskilled labor has advanced materially, probably as much as 50 to 75 per cent. Whether this condition will permanently remain or not depends on circumstances. It will doubtless exist for some time. That means that in the future we will have to give more attention to our unskilled labor. A better grading system will be necessary.

The foreigner just because he is a foreigner, and the negro just because he is a negro, and women just because they are women will not be placed arbitrarily in the class of unskilled labor, but they will be trained, watched, selected and classified according to the value of their capabilities to the industry.

Those most capable of manual work combined with the least capabilities in mental work and with very little training will fall under the classification of unskilled labor.

At the Casino Technical Night School, we have had about eleven years' experience in teaching foreigners. At the present time we will have to say that we do not understand this part of our work nearly as well as we do the other branches that we handle, namely, the engineering and the preparatory courses for men and the commercial and domestic science courses for women. We hoped, though, at this meeting to find out some facts and some methods that are being used at other places, with a view of comparing them with our own, and we will be glad to give anything we have gained in our experience that may be helpful.

In regard to teachers—we have felt that the American-born teacher is the best, if he is carefully selected with a viewpoint of getting the kind of teacher who is sympathetic and who pays enough attention to details to try to get the attitude and the background of the foreigner.

Our foreign department at the present time has an enrollment of about one hundred. We find that these men, because of the fact that we charge a tuition fee, are of the higher class foreigners, the kind who appreciate education and are willing and able to pay for it, in order to advance their condition in the industrial world. We believe in all of our night school work that a tuition charge is advisable. Possibly the charge we have been making of \$10 per term is excessive; in fact, we know it is, as far as the work in which foreigners are concerned goes.

With the foreign women we have had very little success. Our classes range from six to ten. It is not the attitude of the foreigners to train their women extensively, unless they are actively working in the shops or outside of the home.

Many of the women who apply at the employment departments of large concerns lie in the class of unskilled labor. This subject has not been mentioned in the report, but it is a very important one, we believe, in the discussion of this general topic. In modern industry, many women are being used in different capacities. Our aim, both with the men and the women, is to so train them that if they have the ability they can occupy a higher place in the organization. Our next aim is to get these higher places for them. In our foreign department we primarily teach English, and secondarily we try to get across ideas in regard to American institutions and ideals and in regard to general manufacturing practice.

MR. W. H. EYLER: I am very much interested in this proposition, and have two questions to ask. First, I would like to ask the opinion of the Chairman of the Committee, or any one here, what they would consider a fair proportion of aliens among the entire number who have been interested to go into classes; in other words, if you have 2,000 aliens, can you consider you have had a measure of success if you get 500 of them to attend the school? In other words, what is the proportion that you can count on?

The next question is, the point spoken of, of interviewing the priests and leaders, and the thought came to me perhaps in some cases the priests might want to keep the men in ignorance for their own purposes—that is the second question.

MR. J. E. BANKS: Answering the last question first, I think we have given, as Protestants, the Roman Catholics, particularly in

this country, rather a bad place sometimes in our opinions. I never saw anybody in my life with more Christian earnestness in the desire that their men should go to school and get the best of it than the Catholic priests in Ambridge, but you must be quite sure you are going at them fairly. The Catholics have been a good deal prejudiced against corporation welfare work sometimes, because there are corporations doing much of this class of work through the Y. M. C. A., which has no Catholic control. Whether they should have taken that attitude or not, I do not know, but they have done it.

As regards the proportion of foreigners who attend school, it will depend, to a great extent, of course, upon whether you charge tuition or not. We tried at first \$2 a month. It was apparently more than they were able to give. After the company came into the project, the company paid half and the men half. Now since then, when we have had the classes properly manned or womanned, we have been able to get an enrollment of about 125 out of 1,500, with an average of not more than 50. We are going to get a larger proportion in the coming year and will do it because we will have the classes smaller, and there will be more of a careful picking and training of the teachers.

MR. W. H. EYLER: What do you consider as a fair-sized or proper-sized class?

MR. J. E. BANKS: From eight to a dozen, even less than eight, if the members of the class are particularly backward.

On the line that Dr. Steinmetz spoke of, we have used in part American men and women as teachers, and in part foreign men and women as teachers. Sometimes our best teachers have been Americans and sometimes the foreigners have been the best teachers.

There have been two foreign-born teachers especially successful. One was a Russian exile who also spoke Polish. He learned English quickly and taught it well. The other was an Austro-German young woman from near the German border in Austria. Her English was learned in this country. She has been particularly capable in getting the meaning and spirit of things into the minds of these people. They all feel kindly toward her, and she has been very kind to them and thus is able to get the best work from them.

THE CHAIRMAN: Mr. Banks will close the discussion.

MR. J. E. BANKS: We are going to have these foreigners in America. We would, indeed, be sorry as industrial workers if we could not have them. I remember a question asked a number of years ago. It was this: Suppose the Negro could be taken from the South and shipped to Liberia, who would be the one most to object? It would be the Southerner. The Southerner has found—the wise one—that his particular asset is the colored man. Likewise, we of the North must have these foreign-born people, and we had better make the best of them.

You have seen the report this year in the form of communications from the companies represented by the members of the Committee. The subject is a new one, and we thought something concrete in this form would be about as good as we could give you the first year.

After the meeting tomorrow it is the expectation to have a Round Table in the same hall in which the meeting is held, and you who are interested further in this subject are invited to come there, and an opportunity will be given for further discussion of this report.

BANQUET.

HOTEL SCHENLEY, PITTSBURGH, THURSDAY EVENING,
JUNE 29, 1916.

HERBERT J. TILY, *Toastmaster.*

PRESIDENT MCLEOD: Ladies and Gentlemen, we have had, as members of our National Association of Corporation Schools, three very arduous days. I believe we are all grateful to those who have done their work so well—I refer to the committees and the chairmen of these committees. The report, I believe, will furnish us with something that is going to be very instructive, which has added to the foundations on which we may in the future build structures that will be for the good of ourselves and for the good of those who come after us.

Tomorrow this Fourth Annual Convention will go into history, and with it its President, who is now speaking to you, and I realize the sadness of these things when I think of that old saying:

Long live the king!
The king is dead.

The King, however, who is to succeed me tomorrow is here. He is going to act as toastmaster for us tonight, and I take great pleasure in introducing to you Mr. Herbert J. Tily, of Philadelphia. (Applause.)

THE TOASTMASTER: Mr. President, Ladies and Gentlemen of The National Association of Corporation Schools, our Honored Guests. Your President has told you that I am from Philadelphia. Dr. Scott has told you he can tell something about men. The two things remind me of a man who sat once in a smoking-car on a railroad and boasted of his ability to tell where any man he saw came from, if he came from a city in the United States. There were several gentlemen in the car besides himself, and he was challenged to try his powers on three of them. He said to one gentleman, "You come from Norfolk, Virginia."

The man said, "By jove, you are right, old man; I don't know how you tell it, but that is where I come from—Virginia." To another chap he said, "You come from Portland, Maine." This man responded, "You are right, that is my home; I come from Portland, Maine. You're a wonder." To another fellow, who was sitting in the corner, the man said, "You, my friend, come from Philadelphia." This man said, "You are wrong, but there is some justification for the mistake. I have been sick for six months." (Laughter and applause.)

Ladies and Gentlemen, I have not been sick for six months, but I have been for at least six minutes. I do not know of anything calculated to spoil a man's appetite so quickly as to realize that at the end of a perfect meal comes the speech he must deliver. (Applause.)

We have had, ladies and gentlemen, a wonderful time in your wonderful city, and I wish to add my word of thanks to what our President has said as to the gratitude of the members of the Convention to you all for the wonderful way in which you have taken care of us, and not only to the members of the Local Committee who have looked after us, but especially to those in charge of that wonderful institution on the hill, Carnegie Institute, for giving us a part of their magnificent plant in which to meet. It was an inspiration, surely, to sit under that dome with its French motto: "Here inspiration spreads her wings." Under this unthatched dome of mine inspiration spread her wings some time this afternoon and flew off, and I am here minus that. (Applause.)

There are some things you have not done in Pittsburgh. When visitors come to Philadelphia, one of the luxuries is to go through the insane asylum a few miles out from the city. A friend of mine tells of making a trip there and recalled having spoken to one fellow who looked as if he might be an inmate. My friend had a train to make and saw a clock on the wall and said: "I didn't know it was so late. Is that clock right?" The answer came, "If it was right it would not be here."

He was about to leave when the doctor met him at the door and said: "My friend, I wish to tell you of a pathetic incident which happened today. A business friend of yours was brought here, and we felt at first he was in for a long stay, but very much to our delight we found the chances were that he would recover

in a very short space of time. We told him so and told him that he might go upstairs to his room and write to his people at home that he would in three weeks be out of the institution fully recovered and in the bosom of his family once again. The poor chap wrote his letter, brought it down, got a stamp, and with trembling hands attempted to put the stamp on the envelope and missed it, and the stamp fell, turning over and over, and dropped to the floor sticky side down on the back of a roach. Mr. Roach started across the floor, and the man looked at it, saw his stamp running up the wall, and said, 'Three weeks? Good night, thirty years for me!'

If any of you are going to the Convention of the Associated Advertising Clubs of America to be held in Philadelphia, beginning June 25th, if you will call on me while there I will promise not to take you over to the insane asylum, but I would like to have you look me up, that I may return some of the many courtesies which I have received here.

Ladies and Gentlemen of the Convention, you have heard, I believe, all of you here today, as to the work of the Convention, but I feel like saying just a word to some who may be visitors here. In the Convention we work hard. I do not know of a harder working convention. One reason may be, it is the only convention I personally attend. I send the other fellows to most of the other conventions, but there is something about this meeting which made a big appeal to me. Miss Fox, who is with us, went to the Convention at Dayton, and after I met you in Philadelphia, personally, my heart has been in the work. I have been now to two conventions myself, and I want to attend these conventions for many years to come.

I believe that industry, through the instrumentality of this Association, is going to find its work in the uplift of man. As we work out these definite problems in connection with industry, we will find ourselves more and more in the hearts of our fellow men if we pursue the high purpose which has been set forth in our meetings.

I think I owe another debt of gratitude to this particular Convention, and that is, your good President has given me the distinguished honor of being toastmaster on this occasion, that I may have the pleasure of introducing some of these gentlemen. The gentleman who is first to speak to us tonight I know

needs no introduction to the men and women of Pittsburgh. He is too well known to all of you to require an introduction, nor do I think he needs any special introduction even to those who are visitors from other cities. His name is known throughout the length and breadth of this land. I have been told by the men of Pittsburgh that he is beloved here in Pittsburgh more than any other man in the city, and in the short time I have been privileged to sit beside him and listen to the various topics which we have been discussing, he has enshrined himself in my heart, and I understand why you all love him.

Just before leaving Philadelphia I talked with our advertising manager, Mr. Durbin, who was born in the same city in which this distinguished gentleman was born, Brownsville, and he told me that he as a boy heard Dr. Brashear lecture on the moon, and tell how, when a boy of about twelve years, he saw one of those peripatetic astronomers on the street with his telescope, and how he gained a glimpse of the moon through the telescope, and resolved to make himself one. He did make a telescope later on, and knocked out the side of his house in order that he might use it and study the heavens. This telescope, and many others he has made since, have been used to give him and the world a larger vision of things celestial, and the analogy I wish to draw is this: that the National Association of Corporation Schools can be used and is being used to knock out some of the walls of business and give us a larger view of things terrestrial, particularly as they refer to the relations between those who employ and those who are employed.

Dr. Brashear, it is my distinguished pleasure and honor to introduce you to this company of members and friends of The National Association of Corporation Schools, and to assure you of your hearty welcome to this board. We will be very glad to hear from you.

ADDRESS.

DR. JOHN A. BRASHEAR: Long ago I ceased to say, "Mr. Toastmaster, Ladies and Gentlemen," as if the toastmaster were not a gentleman. I like to say, "How are you, Good Friends?" A fellow who has been introduced with so many encomiums as I have been subjected to has to do something to get back at the toastmaster. I will tell a story I heard from an intimate friend

not long ago, a Holland astronomer who came to this country, one of the greatest men they have abroad. He had an element of wit back of him, as not too many astronomers have. They are deep in their science, but usually have only a small fund of fun. He said that he had met one of his early schoolmates, a German, with whom he had gone to school in his earlier days, and when he met him, after the war had started, he had a great number of decorations on his coat. My friend said to him: "Hans, I never knew you did anything very glorious in the war; how in the world did you get all these medals and these honors?" the German replied: "I will tell you mine friend. You see dot big one, I got it first, and I got it by mistakes, and I got all the others because I had dot one." (Applause.) So when you get honors by mistake, or otherwise, in some way you must pay for them.

When the Governor of Pennsylvania stuck me up as the most prominent citizen of Pennsylvania he got me into more trouble than I have ever had before in all my life. If you could only know of the awful mistakes that have been made in my honor. If you could only know how many widows have called me lovely (laughter)—one lady in writing to me, instead of addressing me as "Dear Mr. Brashear," or "Dear Prof. Brashear," or "Dear Dr. Brashear," wrote: "Oh, Wonderful Man."

It is a great delight to meet with you tonight. I am sorry I have not been able to attend your wonderful convention here. I read everything that I could about it by taking the paper reports, and I had to content myself with reading about it in the paper because I had no time in which to come to your convention.

Some of you know that six years ago a friend of Pittsburgh, whose name I will be privileged to tell a little later on,* entrusted me with a fund of one-quarter of a million dollars for the benefit of teaching in the public schools of Pittsburgh. Recently when he came here to see us and recognized the great work that had been done by my colleagues—those who helped me in this great work, among those some of the teachers and the heads of public schools, and those associated with Dr. Davidson and his wonderful corps of assistants—there was enough more money entrusted to us to send double the number of teachers of the schools

* The donor has since been made known to the public in the person of Henry Clay Frick.

of this city to study, rest and recreate in summer schools from Maine to California, and the problem of selecting, apportioning and caring for the extra 100 teachers all came on us within the last few days, and so we have been working on it day and night and today we have just finished our labors, and will send 200 teachers of the city of Pittsburgh from Maine to California, for study and rest and to meet their colleagues, and who will come back to us rested, full of enthusiasm and ready for work. We will have 200 come to us with the richness they have gathered from the various cities in this wonderful country of ours.

The subject of education lies very near my heart. Day before yesterday I was at the high school in Allegheny and made a little talk about Decoration Day, and a little later on I went to the school on Grant Street, and while I stood there listening to the beautiful songs that were sung by these children, the superintendent of the school pointed out to me the fact that in that school, where there were nearly 300 children, there were but *twelve native born*; and when I listened to them singing, "My Country, 'Tis of Thee," I recall that I saw six singers on one seat all singing with their hearts and voices the love of their country and it seemed to me they might well all be Americans. I asked the principal who they were. I was told the first one was a Syrian, the next one a Slav, the next one a Hungarian, the next one an Italian, the next one Roumanian, and that little boy on the end of the seat is American, and every one of them was singing, "My Country, 'Tis of Thee" with fervor and enthusiasm. Don't you think this old Adam's apple of mine crawled up in my throat and the tears came? It was a beautiful sight to see them and to hear them singing "My Country, 'Tis of Thee!" (Loud applause.)

Then, my friend Steinmetz, one of the most beautiful things I saw and heard at the school was a boy who got up and repeated that marvelous speech of Lincoln's at Gettysburg. He was a German boy who had graduated the day before, and who had made application for his first American citizenship papers. That boy stood up in front of the assembly and recited that wonderful address. Is there any country, gentlemen, on the face of God's earth that ever saw a sight like that or ever heard such songs?

We ought to honor this country of ours. Some one said it was the melting pot of this old earth, and so it is, and I am glad

to see you are interested in this wonderful work of education without reference to creed or country.

I have been at some corporation schools and watched their work. I know you are doing great work. Since I have been associated with this dear fellow (Dean Connelley) for now nearly fifteen years in the Carnegie Technical School, and have seen the results of what it has brought to us, I am heartily in favor of everything of the kind you are doing in the way of education of those connected with your corporation.

But I want to say a single word to you—well, it will be several words. In our pursuit for efficiency—and that word efficiency has become a strong word in America—we must not forget the human side of our work. If we are to teach our boys and our girls only that they may make more things than they are making, only that they may make more money for their employers, only that they may make better advertisers, better salesmen, and all that sort of thing, and keep away from them the human side, I say: Stop your work at once, and start at the other end. If you are to make salesmen, and not human men, then you make a mistake.

About this Sunday regulation—they used to stop us from doing things on Sunday in Pittsburgh, they even wanted to stop the working men from going into the conservatories and in the city of Allegheny. We had a tremendous fight to open the flower gardens and conservatories to the poor children and the working people. They do not fight us now; we have lots of things which are open on Sunday in Pittsburgh. May I tell you that some of the girls of the Tech School and of the University got together about 100 of the working girls of Pittsburgh from the stores, from the cigar factories, the restaurants, and brought them to the college rooms, down at the Bessemer building, and gathered them in there, and they asked me to go over and talk to them. I talked to them and made some experiments for them on Sunday. I do not think St. Peter will keep me out of heaven for it. I never have had a more intelligent and more observant and more earnest and more enthusiastic crowd to talk to than those 100 girls from the factories and the stores. I showed them some experiments in relation to the beautiful in the familiar things of every-day life, and I am getting letters from all over the town from those girls who never before heard of anything of the kind.

I was down at Washington a little while ago with Friend Steinmetz and gave a talk before the National Academy of Sciences on the progress of science in national engineering associations of the United States. I said to them: "Gentlemen, with all your knowledge and all your learning, do you suppose that the florist does not love to know why the rose is red and why the jessamine is yellow?" I said: "You keep too much to yourselves. You have been wrapped up in your wonderful scientific studies and forgotten there were others who love it," and I wish to tell you, ladies and gentlemen, that the layman is ever ready to hear the story of the good and beautiful. They quote the good man Steinmetz's knowledge of electricity, and he does not keep it bottled up—not a bit. The man or woman who has knowledge given to them, and is not willing to share it with the other fellow, loses some of the most valuable things of life. Some of the greatest experiences come to him. If I go to bed tonight and think I have dropped a single little pebble that has a beautiful color and that some little child will pick up, don't you think it is worth while? In your corporation schools where you teach them what you want them to do, and what you are going to do, don't forget, back of it all, you must have the human side if you are to improve this old world.

I have been associated with a number of things of this kind in my long life. The toastmaster spoke of the fellow who came up to old Brownsville with a little telescope in the years gone by. I was only eight years of age—you have given me credit for four more—when I got my first peep at old Saturn and the moon. It was a little telescope made out of glass that ran down in the cellar from Bakewell's glass works at the time of the great Pittsburgh fire in 1845. It was in 1848 that I got that first sight of any celestial scenery—that picture is as fresh in my old cranium today as it was sixty-eight years ago. I determined right there if I ever had an opportunity I would make one, and a telescope would be put where the people, the layman, the poor boy who sells papers on the streets, or the richest man walking the streets, would have the opportunity of looking at the beauty of the heavens *free*.

The business men of Pittsburgh gave me \$300,000. Your friend Charlie Schwab said: "Put me down for all the steel for your observatory." The first man I asked, who had never given

a cent to anybody for scientific purposes, gave me \$10,000, and I nearly took a fit, and the next person I asked gave me \$25,000, and I did take a fit. Nevertheless, the observatory is complete—a beautiful temple dedicated to the science of astronomy. Go to the observatory tonight, whether the stars are shining or not and you will find a crowd there, and in the six years it has been open 19,000 persons have visited it, and our friend Hamerschlag is going to put another in the park so that the upper ten and the lower ten can get a chance to study the heavens.

Now, then, in your teaching, don't forget the human side of things, for, gol darn it, what is the use of business if you don't have fun out of it? What is the use if you go home after a tiresome and drudging day, if you cannot think of having said a kindly word to some one? You work hard, and when you go to heaven you will have a devil of a time in being happy if you cannot call to mind some of the human things that have graced your earthly life.

There was a great poet who, while in England, was called on to make an after-dinner speech before a society of electricians. When he arose he said he hardly knew what to say, but the thought occurred to him that he had a dream which might be of great interest to electricians. He dreamed he died and went to heaven, and after St. Peter talked to him a little while he said, "You are in the wrong place," and he was good enough to send a fellow down with him. Down, down, down they went, and then the little fellow with some sort of talismanic words rapped at the door and it was opened. In his dream he saw before him one of the most beautiful sights he had ever looked upon. There was a table on each side of the entrance illuminated with the most beautiful candelabra he had ever seen. He had seen beautiful things something like it, but nothing exactly like it before. While he was looking across the room there came up a train of fine electrically driven cars alongside of the table. A number of gentlemen in their evening clothes stepped from the train, who sat down at the right-hand table. In another moment another train came in, when he asked, "Where am I at?" "Why," the fellow said, "you are in hell." The man murmured: "It cannot be, it cannot be, my friend; where am I? It cannot be that I am in hell?" "Well," the man said, "the trouble is these damned electricians came down here and found all this heat going to

waste, and look what they have done with it." (Laughter and applause.)

Let us take this energy which is going to waste and turn hell into heaven, if we can do it on earth, all the better for this old world of ours.

I was at the great convention held in the beginning of the year called the Pan-American Scientific Congress. I met many Spanish gentlemen, and I learned enough Spanish to say the word "Bienvenidos" (welcome). I found they were deeply interested in our educational schemes, and it is up to us to assist them, because they want our help. Only yesterday I met a little girl who said: "I wonder if your fund cannot send some of us teachers down to South America, and interchange with these people, and send them up here, and let us bring about a new era in education, helping to bind this old western world of ours closer together."

I have said enough. If you want to be happy in this world, don't have the plans for your corporation schools so tight that there is nothing left to do but to lay out this plan and that plan and have them meet exactly right. When I was in England, in 1888, a gentleman laid in my hand a piece of apparatus which weighed seven or eight pounds. He said: "Brashear, do you know what that is?" I replied, "I don't. Whatever it is, it is a pretty piece of apparatus." He said, "That is the father of all of the dynamos of the present day, the little dynamo made by Michael Farraday." Don't you think I felt like hugging it. Do you think if Farraday had kept his discoveries to himself that the world would have profited by his inventions? You have done great work and will do great work, and I believe in your work, but make it touch the human side, and don't forget to distribute your knowledge and help the other fellow. What is the use of knowing a thing if you do not have some one to tell it to? I have an old book by Huygens printed in 1692. In the very first chapter, in an idealistic paragraph, he says: "I believe the saying of Archytus to be true, that if we were permitted to go to the heavens and visit the planetary worlds and hear the birds singing and see the flowers blooming, and see the meadows green, and find people like those who dwell upon the earth, *"how unhappy we would be if we had not a friend to come back and tell it to."* That is the object of all knowledge today—go get it

and communicate it to the other fellow. It is one of the axioms of the old book we all love so well, and it is our duty today "to do good and communicate."

God bless you in your work. May you go on and help the young fellow and the young girl into the higher planes of life, and do not forget the motto of my old friend Jack Crawford:

"When a bit of sunshine hits ye,
After passing of a cloud,
When a bit of laughter gits ye,
And your spine is feeling proud,
Don't forget to up and fling it
At a soul that's feeling blue;
For the moment that you fling it
It's a boomerang to you."

THE TOASTMASTER: Just before we sat down to dinner I asked Mr. McLeod where the clergymen of Pittsburgh were, that we wanted some one to say grace, but he said that they do not pray here. I feel like praying, indeed, that through the goodness of the Creator we may all be spared to get as near seventy-six as our good friend Dr. Brashear, and when we get so close to that birthday as he is that we may have the optimism and enthusiasm and boyish heart and vigor he has. It has been a revelation to me that one of his years and experience has the strength and vigor and enthusiasm which he possesses.

This is the Fourth Annual Convention of The National Association of Corporation Schools, and for the fourth time we have with us one of the dominating factors in the Association, a gentleman to whom Dr. Brashear has referred this evening, Dr. Steinmetz. He is not on our program of speakers, but he always gets on the program whenever he attends any convention of The National Association of Corporation Schools. Dr. Steinmetz, may we have the privilege of a few words from you? (Applause.)

ADDRESS.

DR. CHARLES P. STEINMETZ: Mr. Toastmaster, Ladies and Gentlemen: I did not expect to say anything on this occasion, and I really have very little to say, but I have been connected with our Association since its beginning, and I am extremely interested in it, and desire nothing more than to see it succeed

further than it has succeeded. Therefore, I wish to say a very few words.

With this year, which now comes to an end at the present convention, our Association, The National Association of Corporation Schools, ends, in my opinion, its formative period, and the rapidly increasing growth during the past year has proven that it has become established and recognized as an essential and necessary part of our modern industrial development, dealing, as it does, with one side of the most important, although the newest, activity of the industrial corporation; that is, the relations between the human beings which form the corporation and that particular part of their education which relates to their affiliations with the corporation. There is no doubt that the necessity of such an organization dealing with the human relations in the corporation, in the same national manner as the engineering societies deal with the technical relations, as financial institutions deal with the financial relations, is apparent, and this necessity is recognized by the corporations and an increasing number of corporations have joined the Association.

There is no doubt that we are on the pathway to increasing usefulness and that our Association is now firmly established beyond danger. But when we say that, do not let us imagine there is no more danger to our Association. Let us, rather, realize that from now on it will be necessary that a greater watchfulness than before shall be had. I have seen associations started with promise and do very useful work in their beginning and then fade away and go to pieces in a few years by making a mistake which is very commonly made and very naturally made, that is, by exceeding their scope of activity.

Our National Association of Corporation Schools has a very definite field, a field dealing with the educational side of the work of the corporations. Our members are the corporations, and our Association is authorized and permitted by them to deal with the educational activities of these corporations, and study them, and co-operate in this direction and in no other direction. Never let us forget, even though we wish to do it, even though it might appear to us as individual members to be desirable, that we have no right to combine, or permit our members in any manner to combine, beyond the scope of the specific duty which has been assigned to us, namely, to deal with educational activities, and

there is very grave danger, with our increasing importance, of our being led to exceed this very definite and in some respects very limited, but in other respects very broad, authority which is conveyed to our Association by our members.

We know that previously attempts have been made directly or indirectly to get the Association to indorse individual enterprises, educational organizations, institutes, movements, etc., and with the increasing powers of the Association that natural desire and endeavor will become increasingly more insistent.

We have no right, under our duty to our membership, to do anything of that kind. It is not a question whether any educational institute, or any educational movement, is recommended. As individual members we may recommend things in papers before our Association, we may state what we think about movements, institutions, etc., in as favorable terms as we consider justified. Our Committees may report favorably and say that they think a movement or organization or institute is extremely useful and recommend it to us as an Association, but we have no right to indorse such things. As soon as we do that we commit the corporations which are members of the Association to something which they have not given us the right to do, and this would be a breach of trust which, sooner or later, must react unfavorably on our Association.

This applies not only toward indorsements, but also in the reverse direction, toward criticism or opposition. We also have no right as an Association to enter into a dispute or hostility with any movement whatsoever. Our members may consider it undesirable and object to it. We may have a report on it as an individual or as a Committee, but as an organization we are not empowered to do anything beyond discussion, correlation and consideration.

I might, for instance, mention the relations of our Association with the various public educational institutions in the country. Now, our field is education within the corporation. The greatest educational institution is the national public school system. Now, we must co-operate with the public school system. We must be in a certain relationship with it. We may discuss certain movements with public institutions, but we have no right as an organization to take a stand in favor of one movement or take a stand opposed to another movement, with relation to the

public schools or anything else. We may state our views, but it is up to the individual member to decide what action he wants to take, whether the corporation desires to avail itself of the facts stated in our report and oppose, for instance, a movement in the public school system, or oppose state education or any other educational movement. That may be done by individual members, but must never be done by the Association, as such.

There is no doubt that we should expect to have a certain amount of co-operation with the public school system, but since there may be local friction, let us see that such local friction or antagonism does not carry us into a controversy which would be undesirable, so far as it would commit our membership, through the action of our organization, to attitudes which might be considered undesirable.

Let us go a little farther. There are other movements where this statement applies with still greater force, where we should neither take a favorable nor an hostile stand. I refer to associations of employers and associations of employees, the labor organizations, the labor union. Our field is education and our activities are those which are of interest equally to the employer and employee, to the labor unions and all others, and in this field we may, can, and should, and probably in many cases will, get the active co-operation of all interests, but there may be suspicion, for example, on the part of a certain employers' association, which may not understand our aim and think that we desire to interfere with their affairs. There may be some suspicion on the part of a certain employees' association, some labor union, which may not understand our aims, and if we desire to help all of them, desire to assist in making industrial labor more humane, as it should be, we must be careful not to excite the suspicion or antagonism of any of these organizations.

Let us be careful that we do not create any antagonism. Our field of work is definite. We are not committed to fight against any movement, or organization, or institution, or society, or association, or anything else, nor are we permitted to indorse such bodies, or to pass resolutions opposed to them. Our field is correlation and assistance, and that is what I wish to bring before you—that is the danger I see, that in becoming more prominent, with increasing strength, our Association may be tempted to go farther than the range of activities which have

been committed to our care by the corporations which are our masters, and let us guard against it.

I am sorry that I cannot make a more serious speech, and must ask your forgiveness. I am very much interested in the Association and should very much regret to see our Association go into a field beyond the activities which have been assigned to us, to enter a field outside of the corporation schools, which inevitably would lead the Association into lines in conflict with the true interests of the Association. (Applause.)

THE TOASTMASTER: I regret that Mr. E. M. Herr, who was to be our next speaker, is not able to be present with us this evening. He is absent from Pittsburgh owing to a sudden call to take part in a business conference farther East. He was chosen to speak this evening because he actively supports all educational ideals, and I understand that through the past year he has contributed many papers to various magazines indicating his support of the ideals for which this Association stands.

Fortunately for us, however, the Committee has been able to find a most able substitute for Mr. Herr, a gentleman who for thirty-five years—in fact, since his graduation from college—has been identified with the Westinghouse Electric and Manufacturing Company, and is now its chief engineer. He has had much interest in selecting and training engineers, and has a general and keen interest in the work of this Association. He is a member of the Naval Advisory Board, and knows something about other forms of preparedness than those which we are trying to arrange for many of our apprentices. I have great pleasure in calling on Mr. B. G. Lamme, chief engineer of the Westinghouse Electric and Manufacturing Company, of Pittsburgh, to address you.

ADDRESS.

MR. B. G. LAMME: Ladies and Gentlemen—The principal object of the various corporation schools is to educate, or train, their employees, so that they will be more competent in their various businesses. I have had considerable experience along such lines of training, but only with one class of people, namely, those who are already supposed to have had the very best education. My experience, therefore, has been in educating or training

educated people. This has been in connection with the student's course of the Westinghouse Electric and Manufacturing Company, during the past five or six years. I have been doing such work in a general way for the past twenty-seven years, but only with students who came directly under my charge. I have made it a point to train these as far as their capabilities would allow. The Westinghouse Company has had a student's course for a great many years, but, until five or six years ago, I had no very direct relations with it. About that time, for certain reasons in connection with our engineering department conditions, I was forced to make certain investigations into our student body in general, and once having gotten into it, I have been obliged to stay in it.

In the past five or six years, the Westinghouse Company has taken on over 1,000 graduates of technical schools from all over the United States and Canada. Of these, several hundred have wished to specialize in engineering, while the aim of the others has been toward the manufacturing and the commercial lines, both of which require good technical training. The electrical salesman of today is quite technical, regardless of how he got his training. Also the complexities of the electrical business of today require many high class technical men in the manufacturing departments. As to engineering, it goes without saying that those who follow the engineering branch of the electrical business should be technical men, if they are to advance far. In consequence, the Westinghouse Electric and Manufacturing Company takes on technical graduates almost exclusively for its student's course, regardless of what branch of the electrical business they expect to follow.

My personal experience has been very largely with those who expect to follow the engineering branch of our business. In the past few years I have been obliged to come in contact with practically all those who have had a leaning toward engineering work. An important consideration, in the engineering student problem, has been that of fitting the men to the kinds of work for which they are best adapted. In former years this was done in a more or less haphazard manner by trying the men out in different classes of work to see whether they would make good. This procedure was so unsatisfactory that it became necessary to adopt some method of classifying the students according to their

aptitudes and abilities and then try each one out on that line of work for which he seemed to be best fitted. Obviously, this method is in the right direction, but the primary difficulty lies in determining the characteristics of the students. I have spent quite a considerable amount of time, in the past few years, in studying the characteristics of the students to see whether their natural and their acquired abilities can be sufficiently recognized during the preliminary stages of their work, to allow them to be properly directed toward the field where they will make the best showing. In this study of the students, in which several hundred young men were analyzed with regard to their characteristics, many very interesting points developed, quite a number of which have a direct bearing on the subject of technical training. In the first years of this study, the results were very discouraging, due largely to the fact that the young men had been brought to us in a wholesale way, regardless of their characteristics or suitability for our engineering work. The vast majority of them had no ideas whatever in regard to the kind of work they were fitted for. In fact, the idea has been encouraged, to a certain extent, that the man who had not decided what he wanted to do when he came with us was the most suitable man, for then he was in a position to make up his mind after he had seen the opportunity. Unfortunately the difficulty was that the man who has not, at least partly, made up his mind by the time he has gone through four years of college and then entered our course, could not make up his mind after he had been with us a year or two. It developed, in many cases, that he was lacking in decision. This was a very predominant fact in the first two or three years after I had gotten into this work actively. I soon became thoroughly discouraged in attempting to help the young men make up their minds and was tempted to condemn the whole student's course as a failure. However, after more careful consideration, it was recommended that an attempt be made to get a different class of college men, namely, those who had more definite ideas as to what they wanted and what they were fitted for. It was soon found that to get these men it was necessary to go to the top of the graduating classes, for these men with minds of their own appeared to be in the lead. This policy of selection was gradually developed and improved upon with very gratifying results. It is principally from the study of these

latter men that I have been able to draw certain interesting conclusions.

One of the most prominent features which has developed from the study of these young men, is that in practically all cases the most valuable characteristics which they have shown were possessed by them long before they entered college. In fact, many of them have apparently possessed such characteristics, more or less developed, from comparatively early childhood. In regard to such characteristics, the schools and the colleges have merely directed and developed to a greater extent what is already there. From this standpoint, the college simply develops. If the real tendency isn't there, it would seem that there is but little use to try to cultivate it. Viewed from this standpoint, quite a large percentage of the young men who take up engineering courses in college are quite unfitted for such work. Therefore, one function of the schools should be to sort out and classify the young men according to their characteristics, and to discourage those from following along any line of endeavor for which they have no real characteristics or aptitudes. This applies particularly to technical schools. It might be said that in the present educational system, the usual method is to educate the young men and then select the real engineers, this selection being made afterwards through bitter experience. The right method, apparently, would be to first select the real engineers and then educate them. In other words, those who show a natural aptitude for engineering should be educated along technical lines.

In technical training, or any other kind for that matter, one of the first efforts should be toward finding the student's natural aptitudes. Some boys apparently have no leaning toward any special line. On the other hand, many boys really have some inherent preference, which, however, may not have been strongly enough developed to stand out prominently. Too often the boy's real preference has been entirely neglected or even discouraged. In my own case, as a boy, I was very frequently and severely criticised for my inclination to waste "valuable" time in trying to make what were called "useless things." However, fortunately for myself, no real pressure was brought upon me to prevent me from following my preferences or tendencies, and eventually the "call" was so strong that it took me into the very work which I wanted above all else.

On the other hand, the boy may have a preference for a line of work for which he is entirely unfitted. In other words, this preference may not be based upon natural aptitudes or characteristics and is not a real "call." It is these boys, who are unfitted for the lines which they have chosen, who are a real handicap on their classmates. The class never moves along faster than its average man, and very often at the speed of the poorest men. If these poorest men were eliminated or directed elsewhere, naturally the progress would be much faster. Apparently the present methods of school training cannot overcome this difficulty.

Coming to technical training of students, experience indicates that too much specialization is a mistake. What is needed is a good broad training in fundamental principles. In engineering matters a thorough grasp of the fundamentals is worth more than anything else. By fundamentals is meant the basic principles or facts. These should not be confused with theories or explanations of facts. A fact is basic, and does not change, although the theories which explain it may change many times. A thorough knowledge of basic principles will enable a direct answer to be made in many cases, even where the conditions of a problem may appear to be very complex. Take, for example, the perpetual motion fallacy in its various forms. A perpetual motion scheme may be made so complex and involved and may include so many principles and appurtenances that the best analyst may be more or less puzzled how to explain the various relations clearly. But just apply the principle of conservation of energy and no further explanation is necessary. This one fundamental fact covers the whole case. In the same way a thorough grasp of some basic principle will often clear up the most complex problems or situations and will allow a conclusive answer to be made. With such a grasp of fundamentals, one is not liable to believe that a "pinch" of some wonderful new powder or chemical, mixed with a gallon of water, will give the equivalent of a gallon of gasoline, and at the cost of a few cents. And yet this fallacy "breaks loose" periodically, and is given wide circulation in the news of the day. What is needed in such cases is a little knowledge of fundamental principles.

This very grasp of fundamentals accustoms the boy to think for himself. In other words, it develops his *analytical* ability. As

one educator stated to me some time ago: "If a boy has analytical ability, there is hope for him; if he has none, he is 'punk.'" By analytical ability is not necessarily meant mathematical ability, which some people are inclined to confuse with it. By analytical ability is meant the ability to analyze and draw correct conclusions from the data and facts available. This faculty can be cultivated to a considerable extent, although there is reason to believe that it originates rather early in life. This is considered by many as the first and foremost characteristic that an engineer must have, and, therefore, the engineering schools should expend their best energies in this direction.

Allied with a grasp of basic principles is the requirement of a physical conception of such principles, as distinguished from the purely mathematical. This can be cultivated, as my personal experience with many students has indicated. A man with this faculty well developed can tackle a new condition with better chance of success than the man who is weak in this regard. He gets a better grasp of the fundamental principles of the apparatus. If he is mathematical also, he is in a position to create, confidently, new formulæ and diagrams to meet new conditions and problems.

This physical conception is closely related to the development of imaginative powers, and without such powers highly developed no engineer can expect to advance far in his profession. The man with originality, resourcefulness, or with the constructive faculties well developed, or the man who can "see through things" readily, must have strong imaginative powers. This faculty also should be developed to the utmost, but should also be directed. It begins early in some children, but, unfortunately, instead of being directed, it is too often discouraged, both at home and in the school. If the boy in the public school develops a new method of solving a problem or reaches any conclusion by other than the well-established routine way, too often he is criticised, rather than encouraged, for his departure from the "beaten track." Of all the faculties possessed by humankind, imagination should rank among the foremost, for it is a basic element of creative ability, which has done so much in the advancement of mankind.

As I have stated before, the student should be well trained in fundamentals, or basic principles. In many branches of engineer-

ing, this means that he should have a good training in mathematics. It should be said right here, that most of the graduates of the technical schools are woefully weak in mathematics. Apparently this is not due entirely to lack of mathematical ability on the part of the students, but is due largely to defective training in their earlier work. One great defect in many colleges is that of "passing" the entrants, in algebra and trigonometry, on the basis of their high-school training. In most cases this early training in algebra is very defective, as sufficient skill is not developed in the student and the practical side is largely neglected. Algebra and its applications to geometry, trigonometry, etc., should be taught in the engineering college course, as a foundation for the higher engineering mathematics. The higher the structure is to be the stronger must be the foundation. If the engineering student is weak in these elementary mathematics, then he should be drilled specially as a step to further engineering work. In the practical engineering work, beyond the college, skill in the use of algebra and trigonometry is of relatively much more importance than the higher mathematics, for it is needed one hundred times where the other is used once. In my experience with engineers, I have reached the conclusion that the principal reason why mathematics are not used more in every-day work is because the average engineers have not the necessary skill. Most of them claim that they have become "rusty" in such mathematics through disuse. However, in many cases, this excuse is worse than none at all, for the occasion for such mathematics exists in practical engineering work and has been there all along.

In the education of the engineer, higher mathematics forms a very valuable part of the training. One of its principal uses is to show how one can do without it. In other words, if properly taught, it gives a broader grasp of methods of analysis; it tends to fix certain fundamental principles. However, as a tool in actual engineering work it is seldom required, except in rather special lines. The higher mathematics might be looked upon as a fine laboratory instrument, to be used on exceptional occasions, while the ordinary mathematics should be considered as an every-day tool in engineering work, and should be ready at hand at all times.

There has been quite a fad for specialization in engineering training. My personal opinion is that specialization in college

training is not advisable except possibly in a very general way. There is a false idea, in some schools, that if a man specializes along some individual line of work, it will advance him more rapidly when he leaves school for active work. In the Westinghouse Electric and Manufacturing Company, as a rule, the student is not asked what he specialized in. We want to know if he is a good analyst, if he is fairly skillful at mathematics, if he has the imaginative faculty and what goes with it. We want to know whether he has been an active man in college or a passive one. We are interested in whether or not he has initiative, resourcefulness, etc. We don't ask him whether he has specialized on design or application work of the various sorts. We prefer him to be a man with a broad grasp of general principles rather than one who has made a special study of one individual subject.

In college training, the time spent on commercially practical details is usually largely wasted, as it may give the student entirely wrong ideas. When a young man comes to us and says that he has had a course in practical design and is positive that he can design, we are inclined to be doubtful about him, for the chances are about ninety-nine out of one hundred that he knows nothing about the really fundamental features of practical design. The chances are that he doesn't even know the real starting-point in making up a commercial design. Even worse, if he has taken such training seriously, he may have to "unlearn" many of his ideas, if the use of this term is allowable. The mental training and the aid in grasping principles, which he may have obtained through his school design, is of course worth something, but, in many cases, the same time expended in other channels may produce large results. Teaching of design should, therefore, be for the purpose of exemplifying principles rather than practice. There are, of course, some lines of specialization in colleges which lead directly to practical results afterward. Research work is one of these. However, it is probable that if a large part of the time given to research work by the student in college were expended in acquiring broad fundamental principles, the results would be better in the end.

As referred to before, there is one serious defect in our systems of training today, namely, it holds back the leaders and pushes the laggards, thus tending toward mediocrity as the general result. There should be some system in schools for

weeding out the "negatives" in any given line of endeavor. Many of these are simply "misapplications," to use one of our engineering terms. In some other lines they may be more successful. To a great extent the systems of teaching would bear revision. The students should have the work put up to them to do as they should not merely listen to some one else tell about it.

In an ideal course, each student should be pushed to the utmost of his capabilities. One solution of this problem would be to assign a certain amount of work to the students individually. Each man could be pushed along independently of his fellows. The weaknesses of the individual men would soon appear. If, for example, it develops that certain of the students are behind in the necessary mathematics, then steps could be taken to correct this defect. Each student would have to think for himself, to a considerable extent, and would be put more or less upon his own resources. His various characteristics could be studied and developed and he should be made to work out and apply fundamental principles. He would thus practice using his own mind, and if it develops that he has no mind of his own, he could be dropped. In such a course of teaching, the advancement of each man would be dependent upon himself, to a large extent. With most of the present systems, the development of the class is measured by the average man, as has been said before. But it is not the average man that is wanted, but the best, and he should be pushed as hard as possible. At this point a principle of mechanics can be applied rather aptly. In machines a force in overcoming resistance, does work. In the man, the same principle holds true. No matter how much force a man may have, if no resistance is presented, no result is accomplished. And if the force is small, then the result is also liable to be small. But a smaller force overcoming a larger resistance may result in greater accomplishment than a larger force with but little resistance. An unusually brilliant boy with too small a task set for him may accomplish little. His task must be adjusted to suit his abilities, for, as in machines, to obtain the greatest result, the resistance, or task must vary with the force acting. Unfortunately, many good men of great capabilities accomplish nothing through too little resistance, due to life being made too easy for them.

Such a kind of training as I have just mentioned would be difficult to apply in many of the schools as constituted today. But my personal experience indicates that the better class of men will develop rapidly under such treatment, while the laggard is eliminated quickly. I have tried this system in general on many graduates from the technical schools and unusually satisfactory results have been obtained.

All of the foregoing points to the fact that the mere accumulation of knowledge is not a training or an education. The old saying that "knowledge is power" is not technically correct, any more than is the statement that torque (or force) is power, to use an engineering comparison. Torque, or force, is not power, but *torque in motion* is power, and, to continue this comparison, *knowledge in motion*, or in action, is power. Activity in some form is one of the essential factors.

To sum up, the schools should aim to develop the student's characteristics, as far as practicable. They should aim to develop analytical ability, imaginative faculty, ability to do independent thinking. They should teach fundamental principles and the course of teaching should be such as to show whether the individual student has a real grasp of such principles. A broad general training is most desirable for the man who has the ability to do something in the world.

THE TOASTMASTER: This completes the program of speaking, and we will now have the moving pictures and there will be dancing.

BUSINESS MEETING.

FRIDAY MORNING—JUNE 2D, 1916.

PRESIDENT McLEOD, *Presiding*.

PRESIDENT McLEOD: The first business on the program this morning is the report of the Nominating Committee, of which Committee Mr. John L. Conover, of the Public Service Corporation of New Jersey, is Chairman.

MR. JOHN L. CONOVER: Mr. President, Ladies and Gentlemen. Our Constitution provides that the report of the Nominating Committee shall be transmitted to the Association through the Secretary at least thirty days in advance of the election. Your Committee regrets its inability to comply with this provision of the Constitution and wishes to take this opportunity to assure you that every effort was made to comply with the Constitution.

On account of this inability, the names which I will offer for your consideration will be presented by me as a Class A member rather than as the report of the Nominating Committee. The nominees have the endorsement of all of the members of the Committee on Nominations, and all of the nominees have signified a willingness to serve, if elected.

The nominations are as follows:

For President—Mr. Herbert J. Tily, Strawbridge & Clothier, Philadelphia, Pa.

For First Vice-President—Mr. John W. Dietz, Western Electric Company, Inc., Chicago, Ill.

For Second Vice-President—Dr. H. M. Rowe, The H. M. Rowe Company, Baltimore, Md.

For Members of the Executive Committee—Class A, three years: Mr. Charles R. Dooley, Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.; Mr. Ernest M. Hopkins, New England Telephone & Telegraph Company, Boston, Mass. Class B, three years: Mr. George N. Van Derhoef, Dodge Manufacturing Co., New York City.

There are three vacancies on the Executive Committee, due

to the resignation of members during the past year. The following names are offered for your consideration to fill these vacancies:

Class B, two years—Mr. George I. Alden, Norton and Norton Grinding Companies, Worcester, Mass.

Class A, one year—Mr. Robert C. Clothier, Curtis Publishing Company, Philadelphia, Pa.

Class A, one year—Mr. Jacob H. Yoder, The Pennsylvania Railroad Company, Altoona, Pa.

PRESIDENT McLEOD: Under the Constitution and By-Laws, members are at liberty to make any additional nominations they wish. If there is no one who cares to do that, we can accept the nominations of Mr. Conover, as a Class A member. The matter is in your hands for action.

The further action would be to move that the Executive Secretary be authorized to cast a ballot for the nominee as suggested by this Class A member. Probably it would be better for some one to move that the nominations close, and then we could pass on the matter of balloting afterward. It is in your hands, gentlemen.

MR. M. J. JONES (The Sherwin-Williams Company): Mr. President, I move that the nominations be now closed, and that the Executive Secretary be instructed to cast a ballot of the members present for the nominees as presented by the Committee on Nominations.

MR. KENDALL WEISIGER (Southern Bell Telephone & Telegraph Company): I second that motion.

PRESIDENT McLEOD: Gentlemen, you have heard the motion. Are there any remarks? If not, all in favor signify by saying "Aye"; contrary minded, "No." The motion is carried, and it is so ordered.

The Executive Secretary is instructed to cast the ballot for the nominees just reported.

THE EXECUTIVE SECRETARY: Mr. President and Gentlemen, I hereby deposit the ballot as directed for the officers nominated by the Nominating Committee.

PRESIDENT McLEOD: These officers are duly elected as reported by the Committee on Nominations.

The Committee on Resolutions are not quite ready to report, and we will go to the next business, which is the matter of the

changes in the Constitution. The Secretary will please read the report regarding the changes in the Constitution.

EXECUTIVE SECRETARY HENDERSCHOTT: The proposed amendments to the Constitution are as follows:

ARTICLE II.—OBJECTS.

Section 1. The object is to aid corporations in the education of their employees.

Section 2 now reads: "By collecting, and making available, data as to successful plans in educating employees;" amended to read: "By collecting, and making available, data as to successful and unsuccessful plans of developing the efficiency of the individual employee."

ARTICLE III.—MEMBERSHIP.

Section 3 now reads: "Class B members shall be officers, managers or instructors of schools conducted by corporations who are Class A members. They shall be entitled to hold office and attend all general meetings of the Association;" amended to read, "Class B members shall be any employee of a Class A member. They shall be entitled to hold office and to attend all general meetings of the Association."

ARTICLE IV.—OFFICERS.

Section 3 now reads: "The Executive Committee shall consist of a President, First and Second Vice-Presidents and nine members, six of whom shall be elected from Class A members and three from Class B. Two Class A members and one Class B member shall be chosen at each Annual Meeting except the first, and shall hold office for three years or until their successors are elected. At the first meeting of the Association nine members shall be elected, six from Class A and three from Class B. Two Class A and one Class B to serve for one year; two Class A and one Class B to serve for two years; two Class A and one Class B to serve for three years;" amended to read: "The Executive Committee shall consist of a President, First and Second Vice-Presidents and nine members, at least six of whom shall be elected from Class A, and the balance may be from Class B; also

the retiring President shall automatically serve as a member on the Executive Committee for a period of one year after the expiration of his term of office as President. Three members shall be chosen at each Annual Meeting and shall hold office for three years or until their successors are elected."

ARTICLE V.—MEETINGS.

Section 1 now reads: "The Annual Meeting shall be held during the month of June of each year, and in such places and on such dates as the Executive Committee may determine;" amended to read: "The Annual Meeting shall be held in such places and on such dates as the Executive Committee may determine."

ARTICLE VI.—QUORUM.

Now reads: "Fifteen Class A members shall constitute a quorum for the transaction of business;" amended to read: "Twenty-five Class A members shall constitute a quorum for the transaction of business."

ARTICLE VII.—DUES.

Section 1 now reads: "The annual dues of Class A members shall be \$50.00;" amended to read: "The annual dues of Class A members shall be \$100.00."

Section 3 now reads: "All dues shall be payable in advance and shall cover the calendar year. Any members in arrears for three months shall be dropped by the Executive Committee, unless in its judgment sufficient reasons exist for continuing members on the roll;" amended to read: "All dues shall be payable in advance and shall cover the calendar year. New Class A members joining between January 1st and April 1st shall pay first year's dues of \$100.00; those joining between April 1st and July 1st shall pay nine months' dues, or \$75.00; those joining between July 1st and October 1st shall pay six months' dues, or \$50.00; those joining between October 1st and December 31st shall pay three months' dues, or \$25.00, but for subsequent years shall pay full dues of \$100.00. Any members in arrears for three months shall be dropped by the Executive Committee unless in its judgment sufficient reasons shall exist for continuing members on the roll."

ARTICLE X.—PUBLICATION.

The following article is added and becomes Article X: "The Association shall publish a monthly magazine to be called 'The National Association of Corporation Schools Bulletin,' which shall be under the direction of the Secretary, subject to the approval of the Executive Committee as to the policy and scope thereof and the expenditures therefor. The annual subscription price of 'The National Association of Corporation Schools Bulletin' shall be \$2.00, and is included in the annual dues of the members." (This article is added to enable our Association to get second-class entry from the Post Office Department for its monthly Bulletin.)

There were some minor changes suggested by the members which have been incorporated in the revised Constitution as just read.

PRESIDENT MCLEOD: You have heard the reading of the revised Constitution. What action do you care to take, Ladies and Gentlemen?

MR. F. R. JENKINS (Commonwealth Edison Company): When the revision of the Constitution first reached me, I thought it was a good thing to charge \$100 as a membership fee in this Association, as we evidently needed the money, but upon second thought, and several second thoughts, I have come to the conclusion I sincerely believe we would not accomplish the purpose desired by raising the dues. This is supposed to be a self-supporting Association. There are only two reasons for increasing the cost: one is because the demand for membership is so great that we can afford to do it, and the other is because we want to make it exclusive. I do not believe either reason applies to this Association. What we want in this Association is to have it all-inclusive, and we do not want it to be exclusive, and I do not think there is any demand for membership that will justify us in raising the dues to \$100. I think the result will be the opposite of what is expected. We will have a smaller organization than we have with the dues as they are now. In fact, if we could find some way of reducing the dues, so as to include some of the companies in the smaller towns and get them into our Association, then we would not only have more money to run the Association, but we would get greater good from the Association.

Then the question is, if we have not enough money for running the Association, should we not go to some other method of providing for the deficiency, by reducing our expenses.

It is a question in my mind whether it would not be to the best interests of the Association to publish the Bulletin quarterly rather than monthly. While it has a purpose, and serves it, it is a question whether we can afford it in this Association. We must realize that our Association is now practically just getting on its feet, and it is a time when we should be careful not to make any mistakes. As Dr. Steinmetz so ably stated last night, we have got to have our place and we have got to be careful to stay right in our place. It is up to our Executive Committee to see that this is done. We all have confidence in them that they will hew straight to the line. This is an Association of Corporation Schools, and, as such, I believe we have a good permanent place.

I would like to hear from others relative to the dues matter, because I believe it will be a step in the wrong direction to raise the dues to \$100.

MR. KENDALL WEISIGER: As the Executive Committee recommended the change in dues they must have some good reason for it, and before we go further into the matter, I suggest that some statement be made as to the necessity for the extra money, what they propose to do with it, and why they think it is well to make this increase.

EXECUTIVE SECRETARY HENDERSCHOTT: When your Association was organized—I am making this statement at the request of your President—there was a great deal of consideration given to the matter of dues. The Committee on Constitution fixed the dues at \$100. Afterward, it was thought advisable to reduce the amount of dues to \$50, until we could determine what our actual requirements would be. We started with eighteen Class A members, from whom our principal revenue comes.

Owing to the conditions in Europe, our growth was relatively small year before last; a very slight growth, although we held all our members. We had a deficit, of course, and it became necessary to issue a call for volunteer subscriptions, the results of which were made known to you in the Treasurer's Report—\$2,135 came in as a result of that call for subscriptions.

There was, however, universal dissatisfaction that an Asso-

ciation of our character, standing and size, representing nearly three billion dollars of capitalization, should be compelled to beg for sufficient revenue with which to carry on the activities which your Executive Committee felt that they must carry on, or leave the field open for some other Association to enter. There was a demand on the part of a number of our members that, in view of the experience we have had, we should fix our dues at a price which would yield sufficient revenue to enable us to carry on the activities of the Association without a deficit.

There is about \$1,500 in the treasury at this time, and about \$400 in bills outstanding which were not due at the time the report was compiled. That, of course, will not even pay the running expenses of the Association for the balance of the year, and unless you get in some new members you have relatively no other source of revenue.

If you adopt the new Constitution, it is felt that your revenue will be sufficient to enable you to carry on the activities of the Association as required at the moment. As many of you know, there is a demand for greater research work and investigation, which will, of course, cost money.

This Association is not now, and has not from the start, been to any expense for administration purposes, except the salary you pay your Secretary, but the time is not far distant when that burden shall be assumed, and which you all desire shall be assumed. We are not a charitable institution, and I believe within a reasonable period the Association should bear its expenses.

It is true you can discontinue the Bulletin, or cut it down to a quarterly, and you can also save money in other directions. That has been pretty carefully canvassed, but the general opinion of the Executive Committee has been, if I have sensed their deliberations correctly, that if we do not fill the field that we are in, some other organization will enter the field and do the work.

There has been no thought, so far as I know, of making our Association exclusive, or any other thought, except to raise a sufficient amount of revenue to make our Association representative of the field it occupies and to make it an honor and a credit to those who are its members.

PRESIDENT McLEOD: Are there any other remarks? I am waiting for some action to be taken.

DR. H. M. ROWE (The H. M. Rowe Company) : I move the adoption of the amendment to the Constitution as presented.

DR. CHARLES P. STEINMETZ (General Electric Company) : I second the motion.

PRESIDENT McLEOD: You have heard the motion, which has been seconded. All in favor of the motion will please rise. (Twenty-four members rose.) All those who care to vote in the negative please rise. (Three members rose.) The motion is carried.

Is the Committee on Resolutions, Miss Harriet R. Fox, Chairman, ready to report? If so, we would like to receive the report.

MISS HARRIET R. FOX (Strawbridge & Clothier) : Mr. President, Ladies and Gentlemen. Your Committee on Resolutions presents this report:

As our Convention closes, it is fitting and proper to record our appreciation of the many courtesies shown by our hosts, The Carnegie Steel Company, The Westinghouse Electric and Manufacturing Company, and The National Tube Company. The facilities placed at our disposal by them have contributed in a large measure to the success of the Convention.

In returning to our individual spheres of labor, we shall carry with us not only the inspiration of the conferences, but also the memory of many kindnesses.

WHEREAS, The Carnegie Institute of Technology has so graciously opened its doors to us, we wish to record our recognition of the fact that this institution furnished a most fitting background for our Convention. Combining as it does the academic and the practical in education, it was an ideal setting for the meetings of this Association, the real purpose of which is to bring more definitely into industry the ideas and the ideals of the educator.

In this connection, special thanks are due to Dean Connelley for the efficient and enthusiastic manner in which he has looked after the vast amount of details which it was necessary to arrange previous to the Convention and during its progress.

BE IT, THEREFORE, RESOLVED, That the thanks of The National Association of Corporation Schools be and they hereby are extended to the University of Pittsburgh, to the Pittsburgh Public Schools and to their respective officers; also, to the Pittsburgh Chamber of Commerce, the H. J. Heinz Com-

pany, the Pittsburgh Athletic Association and to the Pittsburgh Country Club for their very kind interest and helpfulness.

RESOLVED, FURTHER, That we express our great appreciation of the very efficient labor of President McLeod, Executive Secretary Henderschott and the various Committees of the Association whose efforts and whose markedly constructive work have resulted in the material progress of our Association during the past year.

Respectfully submitted,

HARRIET R. FOX, *Chairman.*

N. F. DOUGHERTY.

WM. D. KELLEY.

Committee on Resolutions.

PRESIDENT MCLEOD: A motion will be in order to adopt the report of the Committee on Resolutions.

MR. NORMAN COLLYER: I move the adoption of the report as read.

(The motion was duly seconded, put to vote and carried.)

PRESIDENT MCLEOD: I believe that is all of the business which can be done at this session, except the one thing I have to do just now, which, in a way, I regret doing, but regret it less because of the new feature of our Constitution which permits me to continue with these splendid men I have been associated with for the past year; among them, the two gentlemen, one sitting at my right and one at my left, whom I wish to especially mention.

I do not believe there is anything I can say in parting except this: that I have received the cordial support of all of the members with whom I have had anything to do. I certainly have had the support of the Executive Committee, and I would like to thank you one and all for your support. While I have not done very much work, I seem to have been recognized in the column of credit in these resolutions. I was particularly pleased to get them through such a channel.

In parting, I would like to just call your attention to one thing, and that is the caution given to this Association by Dr. Steinmetz. We must never forget, when we are going to act as an Association, to be very, very careful how we act. We as

individuals can have our opinions and express them, but when we are about to take action as an association, that is so important that it requires us to stop, look and listen.

In laying down my duties as president, I can assure you, from my own experience during the past year, that you are going to have a man as president who will be active and competent, and I introduce you now to your future president, Mr. Herbert J. Tily. (Applause.)

PRESIDENT-ELECT MR. HERBERT J. TILY: Mr. President, Ladies and Gentlemen, I have had a few honors in my short life, but none which I appreciated quite so fully as I do this particular honor. Some honors brought with them no responsibility. This honor brings with it a very definite responsibility, and I have a very keen sense of that responsibility. The work of this Association is one of the most important that confronts any Association in the United States today. It has been carried on for four years by men who have given to it their time and money, and it is to be carried on again this next year by men who must give to it both their time and their money.

Your President wants to give, if he can, some direction to the work of the Association. His position is simply an executive one, but he would like to feel that it can also be a directing one, and he must direct it in accordance with the spirit and purposes of the Association. That was in the minds of those who framed the Constitution which was in the minds of those who, before the Association came into being, dreamed of what it might be. We must direct it also, however, in line with the modifying and developing thought of those who remain members in the Association, and still have a definite vision as to its progress, as to its influence and as to its potentialities, both in the way of growth in numbers and in power.

In order that we may have a little more definite expression from the member corporations, the Class B members and the Class C members, I hope the Executive Committee some time early during this year will authorize the issuance of a brief letter of inquiry which may be addressed to the members in which a very few pertinent questions may be asked, and I request now, ladies and gentlemen, that if such a letter is authorized by the Executive Committee that you do not treat it perfunctorily with a rubber stamp, which Mr. Pitzer spoke so humorously of yes-

terday, but that you give each question some thought, and give it a definite, full and frank answer.

There is nothing in the present situation which confronts us which calls for reconstruction, but there is something which calls for continuous constructive work along the lines which you wish, along the lines which may be approved by the Executive Committee. This continued constructive work refers to all the activities of the Association.

In connection with this activity of the Association, I wish to indorse and recommend for your favorable consideration the formation of these local chapters which Mr. McLeod suggested in his opening address at this Convention. I personally will undertake the responsibility of getting together those members in and around Philadelphia who are, I am sure, much interested in the formation of a Chapter there, and if during your deliberations in these various centers where these chapters may be organized, you develop anything of value, will you not transmit that matter immediately to the Executive Committee, that they may have such consideration during the year as may be necessary, and so that they may assist the Executive Committee in planning for the work of the next convention? The Bulletin, whether issued quarterly or issued monthly, should give to all of the members the results of these suggestions which will develop in these various Chapters.

I feel that you expect me to say a word of appreciation and thanks to our host and to the very able and competent and practical business man who during the last twelve months has directed our work and who is responsible for giving us what I think is the most delightful convention we have ever had. I think also that you expect me to say what is in your hearts and what is in mine, that we are again most grateful to our Executive Secretary, Mr. Henderschott, for the immense amount of work which he has put into the activities of this Association. Only those who have seen the mass of detail which he has handled have any appreciation of the multitude of duties which he has to discharge from day to day in order to keep the work of the Association running.

I am glad that the changes have been made in the Constitution, and that incorporated in these changes is this increase in dues. I share with those who voted against the increase in dues

the fear that the membership may be reduced in numbers, to some extent, but those of you who have voted against it, I say to you now, be enthusiastic in support of it, go back to your companies and tell them, if you believe it is true, and I feel that you do believe that it is true, that this Association has a great work to do, and that because of the statement made by our Executive Secretary, voicing the opinion of the Executive Committee, that it is not possible to properly carry on this work without increased revenue, and tell them that if this Association is not worth one hundred dollars a year to them it is not worth fifty cents. It is worth what it costs. The cost per member can be reduced, probably, by an increase in numbers, and some wise plan of increasing the membership we hope to develop during the coming year, but we want, above all, your continued activity and keen interest in the work of the Association, in its possibilities, and we want you to take back to your various homes and your various companies something of the inspiration which you must have gotten from the meeting here in this wonderful setting which we have had, which stands, I believe, more than any other institution in America, this Carnegie Technical School, for the real, practical tying together of education with vocation.

Gentlemen, with all humility, I dedicate as much effort as I may be able to take from my business to this Association. I repeat, I am keenly sensible of the responsibility which is mine, and I am deeply grateful for the opportunity of working with you and for you in an executive capacity. (Applause.)

PRESIDENT McLEOD: If there is no further business to come before the meeting, a motion to adjourn is in order.

On motion, the meeting then adjourned.

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